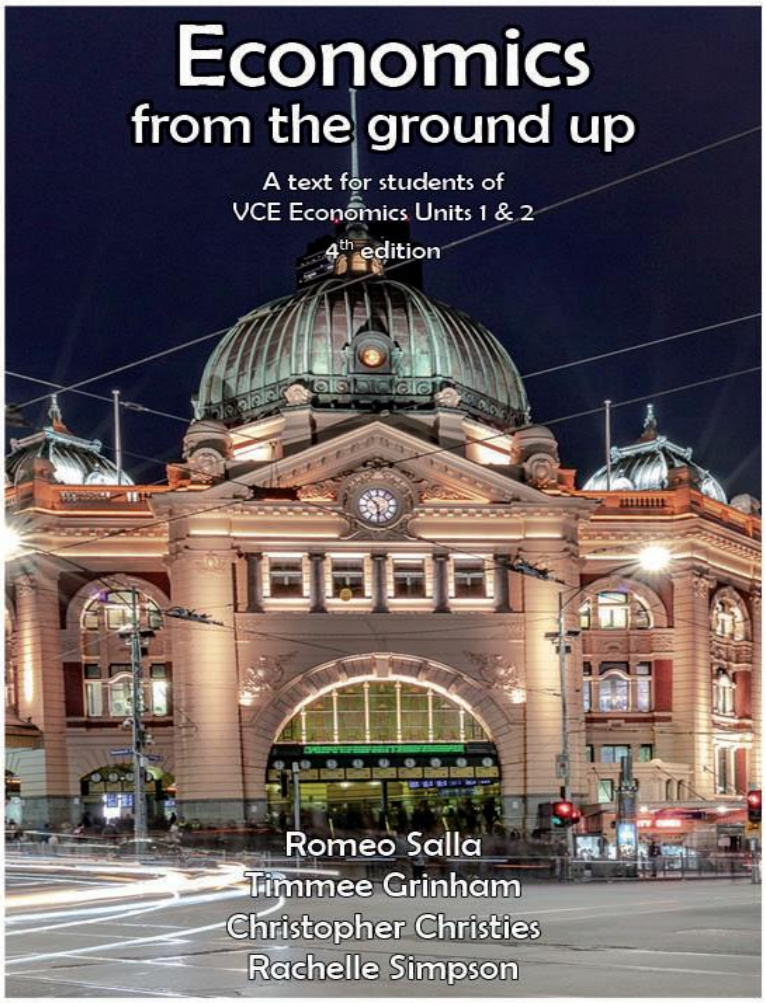
Economics
from the ground up
A text for students of VCE Economics Units 1 and 2
4th edition



Commerce Presentations and Publications (CPAP)
206/1 Queens Rd
St Kilda Rd Towers
Melbourne Vic 3004
Tel: 03 9866 2289
Fax: 03 9005 2717
Email: cpap@commpap.com
Web: www.commpap.com

First published 2013
Second edition 2017
Third edition 2020
Fourth edition 2023

Acknowledgements

The authors and publisher would like to thank government agencies for the use of statistical material collected from the Reserve Bank of Australia and the Australian Bureau of Statistics. All charts and data have been sourced from these organisations via their respective websites at www.rba.gov.au and www.abs.gov.au, unless otherwise stated. The authors would like to thank their families who have been forced to make further sacrifices to enable the fourth edition to be written.

Cover design by Marie Williams [www.prolensphotography.com.au]

Disclaimers

Every attempt has been made by the authors to ensure that the content contained in this publication is consistent with the Economics VCE Study Design (accreditation period 2023-2027) produced by the Victorian Curriculum and Assessment Authority (VCAA). The publisher and authors assert that there is no direct connection between this publication and the VCAA.

Students and teachers are urged to supplement the use of this text with the official Economics VCE Study Design and other resources, including internet sites referred to within the text, other texts, print and electronic media. All internet sites referred to were operational at the time of going to print.

Printed in China

www.ecogroundup.com.au
www.commpap.com

ISBN: 978-1-921813-69-6

About the authors

Romeo Salla completed Honours and Masters degrees in Commerce (Economics major) at the University of Melbourne before moving to Canberra to work as an Economist with the Commonwealth Department of Treasury. After a few years he was promoted within the federal bureaucracy to the position of Senior Economist with the Industry Commission (now Productivity Commission). Since 1996 he has been employed as a Senior Teacher and Head of Faculty at large private schools in Melbourne, teaching VCE and IB Economics, as well as working more widely in Economics education. Romeo has held positions of responsibility with the Victorian Curriculum and Assessment Authority (VCAA) as an assessor of final examinations, including as Chief Assessor, and is also the founder of the website www.economicstutor.com.au. He is also a co-author of the CPAP Study Guide to VCE Economics and co-author of Economic Fundamentals in Australia (CPAP). Romeo regularly presents to Economics teachers and students on behalf of the VCTA and CPAP and is a prolific writer of assessment tasks and practice examinations. He has also developed the popular smartphone App (Economics Tutor), containing 1000+ multiple choice and short answer questions.

Timmee Grinham completed a Bachelor of Economics (Economics and Politics majors) with Honours in Politics and a Graduate Diploma in Education at Monash University, Melbourne. Following her undergraduate studies, Timmee worked towards a PhD in Women's Studies, during which time she was employed as a Tutor and sessional Lecturer. Timmee was the Assistant Editor of the Australian Tax Forum during her undergraduate studies, and she worked as an editor for the Monash Postgraduate Association. Timmee has worked as a senior Commerce (Economics and Business Management) and Humanities teacher at several government and independent schools. Timmee contributes to various publications and presents professional development sessions to other teachers of Economics. She is also author of the quarterly CPAP Updates for VCE Economics Units 3 and 4 and co-author of Economic Fundamentals in Australia (CPAP). Timmee has worked as an assessor of final examinations in VCE Economics (including as Assistant Chief Assessor) and Business Management, and chairs the Economics Advisory Group of the VCTA. Since 2017, Timmee has served as a member of the Reserve Bank of Australia Educators Advisory Panel. Timmee was a member of the panel of experts that developed the new VCE Economics study design.

Christopher Christies completed a Bachelor of Economics degree (Economics major) and a Graduate Diploma in Education at Monash University. He has taught in government, Catholic and independent schools, and in both co-educational and single gender settings for over 25 years. During this time he has also served as Head of Humanities & Business Studies. Since 2014 he has taught at Penleigh and Essendon Grammar School, where he is also Year 12 Coordinator. Christopher has held positions of responsibility with the Victorian Curriculum and Assessment Authority (VCAA) as an assessor of final examinations (including as Assistant Chief Assessor) and was a member of the panel of experts that developed the new VCE Economics Study Design and advice for teachers. He is a regular contributor to the VCTA's COMPAK journal and writes examinations for commercial publications.

Rachelle Simpson discovered her passion for Economics in high school in NSW and went onto complete a Bachelor of Economics at the Australian National University. Following this she completed a Master of Business in Marketing at Charles Sturt University and then a PhD in Applied Economics at Victoria University where she examined the relationship between globalisation and development in the world's poorest countries. Rachelle's particular areas of interest are trade, how countries achieve economic progress and economic history. Prior to becoming a teacher, Rachelle worked in the finance industry sectors of banking, superannuation and insurance and held leadership roles in operations, compliance, business transformation and project delivery. Since becoming a teacher Rachelle has taught in both independent and catholic schools in Victoria. Her teaching experience encompasses a range of Commerce and Humanities subjects including the VCE subjects of Economics, Accounting, Business Management and Australian and Global Politics. Rachelle is on the Victorian Commercial Teacher's Association Economics Advisory Committee (VCTA). She has also contributed to VCTA's Compak journal and is an assessor of VCE Economics examinations for the Victorian Curriculum and Assessment Authority (VCAA).

A note to teachers and students

The approach taken when writing this text has been to provide a resource that can engage and stimulate students of Economics as well as make the job of teaching the course relatively straightforward. We have written each chapter to closely reflect the requirements of the VCE Economics Unit 1 and 2 course as outlined in the VCAA VCE Economics Study Design (2023-2027). The text is packed with colourful exercises, case studies, review questions and crosswords that are supported by a stand-alone website (www.ecogroundup.com.au) dedicated solely to users of the text.

The richness and breadth of the activities enables teachers to 'pick and choose' activities based on the interests of their class or the direction of their lessons. For example, teachers might like to deliver particular components of the course through the provision of activities, such as Application Exercise 3b: Black markets, Application Exercise 4l: price discrimination at cinemas or Application Exercise 7d: The gender pay gap. There are hundreds of like activities through the text, carefully placed to add life and relevance to each of the key knowledge points from the Study Design. They also assist students to develop the key skills outlined in the Study Design, through the collection, interpretation and analysis of economic data.

It has been our goal as both teachers and textbook writers to provide as many varied and engaging activities as possible for students. It is not our expectation that teachers would use all of the activities (or even all of the sections) in each chapter. Some sections contain multiple examples from each key knowledge or key skill area of the Study Design. In the case of Unit 2, students are only required to investigate two of the four economic issues covered in chapters 7-10, but they are encouraged to explore the content in all of these chapters to develop a greater appreciation of the economic issues facing Australia and the globe.

We hope that by including a broad array of activities, this book will promote the enjoyment of studying Economics to students of all abilities, all interest areas and many different geographic locations. We encourage teachers to construct their course with attention to the required key knowledge and skills content of the subject, along with the interests of their students.

In some respects, the structure of the text enables it to be used as a series of 'lesson plans', and the compact layout facilitates 'self-paced learning'. Students can be directed to work through a section of the text, completing the review questions at the end of each section and attempting some or all of the exercises that are specifically designed for applied learning. This approach helps students to develop the key knowledge and skills for each of the five areas of study.

We hope that the breadth and depth of content in this textbook will enhance both student and teacher enjoyment of this terrific subject.

Romeo Salla
Timmee Grinham
Christopher Christies
Rachelle Simpson

Unit 1 Economic decision-making

Unit 1 AOS 1 Key knowledge: Thinking like an economist	Chapter reference Section	Tick when understood
Introductory concepts		
1. the two main branches of economics: microeconomics and macroeconomics	1.1	
2. the two main forms of economic analyses: positive economics and normative economics	1.1	
3. resources (factors of production such as land, labour and capital) used to satisfy needs and wants	1.2	
4. the basic economic problem of relative scarcity and the need for economic decision-making	1.2	
5. the concept and applications of opportunity cost	1.3	
6. the production possibility model to illustrate the concepts of scarcity, choice, opportunity cost, efficiency and under-utilisation of resources	1.4	
7. the need for trade-offs and cost-benefit analysis and their relationship to opportunity cost	1.7	
8. the three basic economic questions: what and how much to produce, how to produce, and for whom to produce	1.5	
9. how different economic systems, including market economies, planned economies, mixed economies and traditional economic systems, may answer the three key economic questions	1.5	
10. the three-sector circular flow model of the economy, including consumers/households, producers/businesses and government	1.6	
11. the purpose of economic activity and the effect on material and non-material living standards	1.6	
The economic agents		
12. economic agents and the concept of the public and private sectors of the economy	2.1	
13. the traditional economic viewpoint of consumer behaviour: self-interest, maximisation of utility, rationality, informed decision-making and marginal benefits from consumption	2.2	
14. the ways consumers and workers might respond to incentives and disincentives, including taxes and tax rebates, subsidies and regulations	2.3	
15. the traditional economic viewpoint of business in the economy: profit maximisation	2.4	
16. the ways businesses might respond to incentives and disincentives, including taxes and tax rebates, subsidies and regulations	2.5	
17. the traditional economic viewpoint of the government in the economy: maximisation of living standards	2.6	
18. the role of government in economic stabilisation, improving efficiency in resource allocation and redistribution of income to improve living standards	2.7	

Unit 1 AOS 1 Key skills: Thinking like an economist	Tick when mastered
define key economic concepts and terms and use them appropriately	
apply economic theory to make economic predictions and create responses that communicate economic meaning	
gather, synthesise and use economic data and information from a wide range of sources to analyse economic issues and assess the effect of economic decisions on relevant economic agents	
construct, interpret and apply economic models to analyse the consequences of economic decisions	
identify the trade-offs and discuss the costs and benefits associated with a range of economic decisions by drawing conclusions based on economic criteria	

Unit 1 Economic decision-making

Unit 1 AOS 2 Key knowledge: Decision-making in markets	Chapter reference Section	Tick when understood
19. the assumptions of a perfectly competitive market system	3.1	
20. the law of demand and the demand curve	3.2	
21. the effect on demand and the position of the demand curve by non-price factors, including changes in disposable income, the prices of substitutes and complements, tastes and preferences, interest rates, population and demographics, and consumer confidence	3.3	
22. the distinction between a movement along the demand curve and a shift of the demand curve	3.4	
23. the law of supply and the supply curve	3.5	
24. the effect on supply and the position of the supply curve by non-price factors, including changes in the costs of production, technology, productivity, and climatic conditions and other disruptions	3.6	
25. the distinction between a movement along the supply curve and a shift of the supply curve	3.7	
26. the effects of changes in demand and supply on equilibrium prices and quantities	3.8	
27. the role of the market mechanism and relative prices in the allocation of resources in a market-based economy	3.9	
28. 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	4.3 - 4.5	
29. the strategies businesses may use to increase profit, including price discrimination, multiple branding or anti-competitive behaviour as outlined in the *Competition and Consumer Act 2010*	4.6	
30. one contemporary example of a market, including the degree of competition in that market	4.1 - 4.2	

Unit 1 AOS 2 Key skills: Decision making in markets	Tick when mastered
define key economic concepts and terms and use them appropriately	
gather, synthesise and use economic data and information from a wide range of sources to analyse economics issues and assess the effect of economic decisions	
construct and interpret graphs and diagrams to represent and interpret economic information	
apply economic knowledge, concepts and theories to predict the effect of changes in conditions on market outcomes	
research and synthesise information about a particular market	
analyse the extent of competition in markets by drawing conclusions based on economic criteria.	

Unit 1 Economic decision-making

Unit 1 AOS 3 Key knowledge: Behavioural economics	Chapter reference Section	Tick when understood
31. key insights of behavioural economics, including bounded rationality, bounded willpower and bounded self-interest	5.1	
32. the differences between traditional economics and behavioural economics	5.2	
33. the effectiveness of strategies used by government to influence consumer behaviours	5.3	
34. the effectiveness of strategies used by producers/businesses to influence consumer behaviours	5.4	

Unit 1 AOS 3 Key skills: Behavioural economics	Tick when mastered
define key economic concepts and terms and use them appropriately	
distinguish between traditional economics and behavioural economics	
apply economic theory to make economic predictions and create responses that communicate economic meaning	
investigate and/or conduct at least one behavioural economics experiment by gathering, synthesising and using economic data and information to report on the findings	
analyse the effectiveness of government and business actions that draw on behavioural economics, using data and economic information to draw conclusions supported by economic reasoning	

Unit 2 Economic issues and living standards

Unit 2 AOS 1 Key knowledge: Economic activity	Chapter reference Section	Tick when understood
35. the purpose of economic activity	6.1	
36. the meaning of material and non-material living standards	6.1	
37. the five-sector circular flow model of the economy	6.1	
38. the business cycle	6.3	
39. types of economic indicators, such as leading, lagging and coincident	6.3	
40. the relationship between the business cycle and economic indicators	6.3	
41. the meaning and importance of aggregate demand and its components	6.1	
42. the factors that may affect the level of aggregate demand and the level of economic activity	6.4	
43. the meaning and importance of aggregate supply	6.1	
44. the factors that may affect the level of aggregate supply and the level of economic activity	6.4	
45. the measurement of economic growth using changes in real Gross Domestic Product (GDP)	6.1	
46. the potential benefits of economic growth, such as growth in material living standards, improved non-material living standards, employment opportunities and economic development	6.2	
47. the potential costs of economic growth, including boom and bust economic cycles, congestion and pollution, environmental damage, potentially widening inequality and 'affluenza'	6.2	
48. the limitations associated with using real GDP and real GDP per capita to measure changes in living standards	6.2	
49. alternative measures of economic activity and living standards	6.2	

Unit 2 AOS 1 Key skills: Economic activity	Tick when mastered
define key economics concepts and terms and use them appropriately	
construct and interpret economic models including the business cycle and the five-sector circular flow model of the economy	
gather, synthesise and use economic data and information from a wide range of sources to analyse economic issues	
identify trends, patterns, similarities and differences in economic data and other information	
discuss the potential costs and benefits associated with increasing economic activity	

Unit 2 Economic issues and living standards

Unit 2 AOS 2 Key knowledge: Applied economic analysis of local, national and international economic issues	Chapter reference Section	Tick when understood
50. the definition of the selected economic issue, including relevant measures and statistical indicators	Chap 7-10	
51. the reasons the issue is of importance to the economy at a local, national and international level	Chap 7-10	
52. the economic factors influencing the extent of the selected economic issue	Chap 7-10	
53. the different perspectives of households (consumers and workers), business, government and other relevant economic agents regarding the selected economic issue	Chap 7-10	
54. the economic responses undertaken by relevant economic agents at a local, national and international level, to address the economic issue, including government policies	Chap 7-10	

Unit 2 AOS 2 Key skills: Applied economic analysis of local, national and international economic issues	Tick when mastered
define key economic concepts and terms and use them appropriately	
gather, synthesise and use economic information from a range of sources to analyse economic issues	
identify trends, patterns, similarities and differences in economic data and other information to draw conclusions	
evaluate the economic responses undertaken to address economic issues	

Suggested timelines

Unit 1 – Economic decision-making

- Area of Study 1: Thinking like an economist - approximately 7-8 weeks
- Area of Study 2: Decision-making in markets - approximately 7-8 weeks
- Area of Study 3: Behavioural economics - approximately 4-5 weeks

Unit 2 – Economics issues and living standards

- Area of Study 1: Economic activity - approximately 6-7 weeks
- Area of Study 2: Applied economic analysis - approximately 12 - 13 weeks

Assessment

The award of satisfactory completion for a unit is based on whether the student has demonstrated the set of outcomes specified for the unit. Teachers should use a variety of learning activities and assessment tasks that provide a range of opportunities for students to demonstrate the key knowledge and key skills in the outcomes. Assessment must be a part of the regular teaching and learning program and should be completed mainly in class and within a limited timeframe. For Unit 1, students are required to demonstrate achievement of three outcomes. For Unit 2, students are required to demonstrate achievement of two outcomes. The 'key knowledge' and 'key skills' are included in the tables on the preceding pages, where each key knowledge point is cross referenced to the relevant section in the text. It will therefore provide a useful guide for teachers when preparing assessment tasks or exercises and a handy guide for students when preparing for assessment tasks, including the end of semester examinations.

For further information about assessment consult the VCE Economics Study Design (2023-2027) or visit *www.vcaa.vic.edu.au.*

Table of Contents

Visit www.ecogroundup.com.au for multiple choice answers, sample responses to application exercises and crosswords, as well as additional support.

Chapter 1
An introduction to economics

1.1 What is economics?

On your way to school this morning, you will have undertaken some form of activity in the economy. You may have consumed breakfast cereal that was purchased from a supermarket; you may have purchased a ticket for a bus, train or tram; you may have been driven to school in a car using fuel and driving on roads provided by the government; or you may have walked through gardens that are maintained by your local council or municipality. At school, you will be provided with a service (education) that is produced by either the government or a private organisation. Indeed, you may even be consuming telecommunication services as you text a friend or download an App during one of your classes!!

All of these activities, and numerous others that take place every single day, can be described as **economic activity**. This is activity that takes place in order to make our lives more enjoyable and/or activity that is designed to help us achieve our goals or to complete our daily chores. The economic activity that we engage in will involve numerous transactions – which typically involve the exchange of money for something in return. For example, the bus ride to school will have required a payment to the bus operator and the use of SMS texting services requires a payment to the telecommunications provider.

Sometimes the form or nature of any transaction in the economy is much less obvious – such as you walking through a park on the way to school. You might ask, how is this an example of an economic transaction when I haven't paid anything? The answer is that the service provided by the park has indeed been paid for, but indirectly, by those paying taxes to governments or rates to councils.

All **transactions** that we undertake, or indeed all economic activity, naturally take place in an economy. An **economy** exists in any place or region around the world where production of goods and services takes place, expenditure on those goods and services occurs and income is made from the selling of those goods and services.

At this introductory stage, think about **production** as the process of making a good or services, such as producing a car; **income** as the money given to those involved in the production of goods and services, such as wages; and **expenditure** as the spending of income on goods and services.

With respect to an economy, it is most commonly defined by a region. For example, in Australia alone, we have several economies: the Australian economy, the Victorian economy, the NSW economy, and so on. Alternatively, an economy can be defined by the system used to determine how decisions about production, income and expenditure take place. For example, later, we will explore the differences between a "market capitalist" economy and a "planned socialist" economy. So, your decision to be at school, consuming education services, is an example of economic activity that is taking place in both the Victorian and Australian economies. The production of the service is made by your school, expenditure is made by your parents either directly (via fees) or indirectly (via taxes), and the income is earned by the school and its teachers. The provision of this education service is also an example of a transaction that is occurring in Australia's market capitalist economy.

Positive and normative economics?

In your study of economics, you will encounter many statements or claims about various economic relationships. Some will be based on fact, and are therefore objective in nature, while others will be based on opinions, and are therefore subjective in nature. Fact-based economic statements come under the banner of **positive economics** and they can be verified or tested to be either true or false, using evidence. To illustrate, the statement that travelling to school on a bus is an example of economic activity is one based on fact. Evidence can be gathered to prove whether or not a student travelling to school on a bus involves expenditure (spending) that creates production and income.

In contrast, statements or claims that are based on opinion or value judgements come under the banner of **normative economics**. Given their subjective nature they cannot be verified or tested to be either true or false. To illustrate, the statement that travelling to school on a bus contributes to the educational and social development of students is one based on opinion. It is virtually impossible for this claim to be verified with certainty.

This distinction between positive and normative economics can sometimes be a fine one. It is particularly important to know the difference given that we make economic decisions that are influenced by journalists, politicians, economists, teachers and many others. Once we are better able to separate fact from opinion - positive from normative - we will then be in a better position to make accurate and informed decisions over time. Even then it won't be easy, given that the bulk of economic commentary is normative in nature, highlighted by the fact that economists disagree on a wide range of theories about how economies work. This includes disagreement about the best way to use our precious and scarce resources due to the core problem faced by all economies: the problem of **relative scarcity**.

Microeconomics and macroeconomics

Microeconomics is the study of the economic behaviour of individual consumers as well as businesses. This includes an examination of the multitude of factors that influence the buying and selling decisions of economic agents and the various ways that governments can use economic policies to influence this behaviour. Microeconomic analysis will therefore include the study of specific markets and why certain goods or services are preferred over others, or how government taxes might influence the consumption and production of goods and services. Chapters 1 – 5 of this textbook focus primarily on microeconomic issues.

The study of **macroeconomics** builds on the foundational knowledge developed in microeconomics and involves the analysis of economy-wide phenomena, such as the rate of growth in the volume of production (i.e. economic growth), the percentage of those who are considered unemployed (i.e. the unemployment rate) and how quickly the general level of prices is rising (i.e. inflation). An understanding of macroeconomics helps governments to devise economic policies that attempt to lift 'economic activity' and improve living standards for all Australians.

Application Exercise 1a

Complete the table to indicate whether the issue is predominantly a microeconomic or macroeconomic one:

Concepts/factors/events	Micro	Macro
1. Excise tax on petrol is halved during 2022 to ease cost of living pressures		
2. Australia's rate of inflation soars above 5% during 2022		
3. Young investors are demanding crypto currencies in the hope of becoming rich		
4. The war in Ukraine caused oil and gas shortages during 2022		
5. The unemployment rate dropped below 4% during 2022		

Review questions 1.1

1. Explain what is meant by economic activity.
2. Define a transaction.
3. Distinguish production from expenditure.
4. Distinguish income from expenditure.
5. Explain how growth in production is likely to affect income.

6. Explain how growth in income is likely to affect expenditure.
7. Explain how growth in expenditure is likely to affect production.
8. Define the term 'economy'.
9. Describe how education services can be used as an example of economic activity that is taking place in the Australian economy.
10. Distinguish positive from normative economics.
11. Distinguish microeconomics from macroeconomics.
12. Classify the following terms according to whether they relate to 'positive' or 'normative' economics: based on fact, opinion, tested, evidence-based, classifiable as true or false, objective, subjective, verifiable, value judgements.
13. Explain why it is important to know the difference between positive and normative economics.

Application Exercise 1b

1. **In your workbooks, make a list of the five most recent transactions you have undertaken today.**
2. **For each transaction, identify the person or group that is undertaking each of the following:**
   - **Production of the good or service**
   - **Expenditure on the good or service**
   - **Income earned from the production of the good or service**
3. **In the table below, classify each transaction as either production, income or expenditure by ticking the relevant box (note that it is possible for more than one box to be ticked in each row)**

Transaction	Production	Income	Expenditure
1. Jane earns $100 from her employer, 7-Eleven			
2. Dylan, a council employee, prunes roses in the local park			
3. Brittany buys a new car from Kia			
4. Ming sends a text to his girlfriend			
5. Tian receives tutoring from a 1st year university student			
6. A farmer harvests her crop of apples			
7. Jane signs up to a Spotify subscription			
8. Bazil downloads an Economics App from iTunes			
9. Anita calls her mother using her mobile phone			
10. Zaynab buys a pie from the canteen			

Application Exercise 1c

In the table below, classify each statement as either a positive or normative statement and be prepared to justify your decision.

Economic statement	Positive	Normative
1. Company tax cuts should increase economic activity		
2. The Australian government is spending an insufficient amount on education		
3. Australia is one of the wealthiest countries in the world		
4. Australia's minimum wages are too low		
5. Legalising marijuana for medical purposes will increase the rate of illegal drug use		
6. An oversupply of crude oil contributed to lower crude oil prices over 2015-16		
7. Carbon emissions are contributing to global warming and climate change		
8. The best way to address climate change is to prohibit the production of coal fired electricity		
9. Spending on smart phones creates employment and generates income		
10. The increased use of social media by children is harmful to their long term well-being		

1.2 The basic economic problem of relative scarcity and the need for economic decision making

Economics primarily concerns why and how individuals or groups make decisions about the transactions they will undertake on a daily basis. As **consumers**, we need to make decisions about the types and quantities of goods and services to consume. Do we buy an Apple iPad or a MacBook? A skateboard or a scooter? A can of Coke or a bottle of water? Do we travel to school on a bus or ride a bike? Do we attend a government or private school? As **producers** we need to make decisions about the materials, machinery or equipment we use to produce the good or service, as well as the workers to employ. In addition, as **income earners**, we need to decide how best to use our labour or skills in order to derive the maximum possible benefit.

All **economic agents** - which are defined as any individual, group or body involved in economic activity - are required to make decisions for the simple reason that there are numerous alternative options available. In other words, there are a number of choices we are required to make from many possible options. We may ask why can't we have it all. Why can't we have the MacBook, the iPad, the Coke, bottle of water, skateboard, scooter and all the other items on our wish list? The answer lies in an economic concept known as **relative scarcity.** As a community, and across the economy, we want an unlimited number of goods and services and our ability to satisfy these **wants** depends on our capacity to produce goods and services – which, in a country like Australia, is quite large, but not limitless. We are therefore limited by the physical constraints placed on us by the amount of **resources** at our disposal.

While in a country like Australia we have an abundance of resources available to produce goods and services, such as land, machinery or workers, these resources are limited when compared to the unlimited demands we place upon those resources. **Relative scarcity** is therefore the core problem determining decision making in every economy around the world: the fact that the wants and needs of societies are larger than the resources available to satisfy those wants and needs.

Relative scarcity = Wants & needs > resources

Needs versus wants

The **needs** of individuals or households in societies can be defined as the basic goods and services that are necessary for our survival. Our core needs are food, clothing and shelter. However, in a wealthy country like Australia, some would extend the list of needs to other items, such as a car, mobile phone, digital tablet or computer. Indeed, some could mount the argument that some individuals don't require clothing to survive, citing those living in warm climates. In contrast, a **want** is considered to be something we desire to have to improve our satisfaction or quality of life, but that is not necessary for our survival. Regardless of whether we classify something as a want or a need, it is still true that relative scarcity will occur.

Why do economists argue that our wants are unlimited? Surely, once we have enough to provide for a good standard of living, wouldn't we slow down our rate of consumption or spending? Whilst this might be true for some, economists argue that it is human nature to always want more. As our incomes grow and we become wealthier, products that were once considered wants, become needs, and products that were previously 'out of reach' become wants. This is largely due the inherent greed of humans, our competitive instincts (wanting more than our neighbours or trying to keep up with the conspicuous consumption of others) and our materialistic society more generally. The pervasive marketing and advertising undertaken by businesses increases our wants further, helping to make relative scarcity an impossible problem to solve. In other words, no matter how many needs we fulfil, more wants will spring up in their place, meaning our wants and needs will always outstrip the relatively scarce resources available to satisfy them.

If you have any doubts about this idea, consider your own idea about your "needs" compared to those likely to have been experienced by your grandparents when they were your age. It is likely that many of the items you currently consider "needs" would not have even been considered as possible wants by your grandparents when they were growing up.

Resources

Resources are those things that are used to produce goods and services; they are also referred to as **factors of production**. They exist in many different forms, including machinery, equipment, workers, managers, factories, forests, and so on. However, resources all have two important characteristic in common: they are all key inputs in the production process and they all have possible alternative uses. Every organisation involved in production must have examples of 'factors of production' that fit into each of the four categories below:

> **Land or natural resources** refers to all those resources that occur in nature. These can be used in the production process to generate more elaborate products, or consumed in their raw form. Examples of such resources include: water, forests, minerals, land, animals, fruit and vegetables. It may seem obvious, but all production depends on natural resources.

Labour refers to the mental and physical effort by humans in the production process. It primarily includes all of the workers employed by businesses or governments in return for income in the form of a wage or a salary.

Study tip

Processed materials used in the production of goods and services, such as chemicals, fuels, or plastics used to manufacture many goods are not resources as defined earlier. Instead they are simply referred to as inputs.

Capital refers to those resources that have been made by combining labour and natural resources to create a more sophisticated input in the production process. Capital goods are made with the intention of making more goods and services in the future and generally these will increase the efficiency with which resources can be converted into products for final consumption. Examples of a capital resource include machinery, factories and equipment.

Study tip

Whether items are considered to be 'capital' in nature depends on how they are used. For example, a car or computer used by a household for private purposes is considered to be a consumer good. However, if they were used by a business they would be considered to be capital goods.

Entrepreneurship (or enterprise) refers to the skills of those individuals who combine our resources to produce goods and services. They take financial risks to establish enterprises (businesses) and are extremely important to wealth creation for every nation. They include not only high profile entrepreneurs like Mike Cannon-Brookes, Elon Musk, Jeff Bezos, Melanie Perkins, or Mark Zuckerberg, but include all business owners. In return for providing their expertise or skills to the business sector of the economy, entrepreneurs will receive income in the form of a profit.

How relative scarcity affects decision making

Earlier, the concept of **economic activity** was introduced and described as the process of production, income and expenditure that takes place in every economy. Each group responsible for the decision making - producers, income earners and consumers - will experience the problem of relative scarcity in unique ways. However, each group will need to make economic decisions that are ultimately defined by the fact that they cannot satisfy all of their wants or needs with the resources at their disposal.

The **producers** involved in decision making face the problem of relative scarcity by determining the best way to combine resources in order to best satisfy consumers and therefore make the most profit. Think about the production of a simple product like a banana. It involves the use of farming land (the banana plantation), machinery (tractors), workers (farm hands) and, of course, the entrepreneur (the owner/farmer). All of these factors of production are required to produce the bananas that end up in the fruit shops and supermarkets around the country. The producer or the entrepreneur needs to make economic decisions on a daily basis due to the problem of relative scarcity. The farmer will make decisions such as:

- Do I continue to use all of my land for banana production or do I consider using some or all of it for some other crop, such as guavas, or indeed for some non-farming activity, such as eco-tourism?
- How much labour do I employ on the farm?
- Should I use more machinery instead of labour?
- What types of machinery or farm equipment should I employ?

With respect to **income earners**, which include both workers and entrepreneurs, they need to determine how best to use their income earning capacity, or their skills and labour, in order to achieve the best possible outcome. An individual worker can work in a number of different areas or industries, meaning that their skills are often transferable or that labour skills have alternative uses. For example, a truck driver involved in the transportation of bananas and other fruit around the country will need to make decisions such as:

- Do I continue offering my labour services to the food transportation industry? Should I relocate to a mining state and offer my services as a truck driver on a mining site, where the wage is significantly higher?
- Do I retrain or enrol in a course of study that enables me to work in another industry?
- Do I withdraw my labour services and use my wealth to become an entrepreneur by creating a transportation (or some other) business of my own?

Study tip

Note that money is not a resource in itself. While it has important functions, such as a store of value and a means of exchange, in itself, it cannot be of use in the production process as it is only a piece of paper or a coin. Therefore, in Economics, it is incorrect to argue that money is a scarce resource.

With respect to **consumers** we need to make decisions about how we can best use our income or wealth to gain satisfaction from spending or consumption. Ultimately, we all make decisions every day on how best to use our money in order to maximise our well being or living standards. This means that money is relatively scarce and another way of viewing the problem of relative scarcity is to say we don't have enough money to satisfy all of our wants and needs.

Review questions 1.2

1. Distinguish the types of economic decisions made by consumers and producers.
2. Define economic agent.
3. Define the term relative scarcity.
4. Distinguish a need from a want.
5. Discuss whether a nation can solve the problem of relative scarcity.
6. Define the term resources and explain why resources are also referred to as factors of production.
7. Discuss how one decision made by a producer can be linked to the concept of relative scarcity.
8. Discuss how one decision made by an income earner can be linked to the concept of relative scarcity .
9. Discuss how one decision made by a consumer can be linked to the concept of relative scarcity.

Application Exercise 1d

In the table below, classify each item as either a want or a need and be prepared to justify your decision.

Item	Want	Need
House		
Television		
Mobile phone		
Motor vehicle		
Train services		
Food and water		
House		
Underwear		
Dinner suit		
Digital tablet		

Application Exercise 1e

In the table below, classify each of the resources as either natural, labour, capital or entrepreneurship and be prepared to justify your decision.

Item	Natural	Labour	Capital
Tractor			
Computer used at home			
Teacher			
Mineral sands			
Computer used at Australia Post			
Great Barrier Reef			
A computer programmer			
The Prime Minister of Australia			
A motor car used as a taxi			
Farmland			

1.3 The concept and applications of opportunity cost

The use of our scarce resources in one economic activity means that those same resources cannot be used in another. For example, assume that a farmer has a plot of land, let's say 1,000 acres, from which she could produce bananas, guavas or any other crop. It may be that 500 acres is devoted to banana production and 500 acres to the production of guavas. Alternatively, some other combination for the land use could be determined. Regardless, the fact remains, that once the farmer makes a decision about how the land will be used in production, it involves a sacrifice. It means that the farmer is sacrificing the opportunity to use the land for alternative crops or uses. The nature of the sacrifice is defined by the range of alternative land uses available to the farmer, such as melon or pineapple production, or a wildlife sanctuary, nature reserve or even a tourist facility. This idea of there being a cost involved in all economic decision making is referred to as **opportunity cost.** The opportunity cost of using the 1000 acres for a particular purpose is, specifically, the value of the next best alternative for which the land could be used. This requires a judgement on the relative merits of each alternative. The option considered to be the next best alternative becomes the opportunity cost.

Opportunity cost is therefore the benefit sacrificed (economists speak about the benefit "foregone") when choosing one alternative over others. It is measured by the value that would have been created by using the resources in their next best alternative use. The fact is that whenever we decide to use our resources in some way, it necessarily involves us giving up the opportunity to use those same resources in some other way.

All rational **economic agents** will seek to minimise their opportunity costs when making decisions or undertaking economic transactions. This means that the overall net benefits (the benefits gained minus the costs incurred) from any

decision (or transaction) will be the highest possible. Assume that the farmer with 1000 acres of land has conducted extensive research and determined that the land will yield the following benefits in dollar terms:

- $100,000 of annual income if used for banana production;
- $80,000 if used for guava production; and
- $60,000 if used for pineapple production.

If the farmer is purely motivated by profit, the rational decision would be to use the land for banana production, with the opportunity cost being the $80,000 of guava revenue that will be sacrificed. The decision is rational because the $100,000 of revenue gained from producing bananas will be greater than the $80,000 of revenue that would have been gained if the farmer used the land for guava production.

Study tip

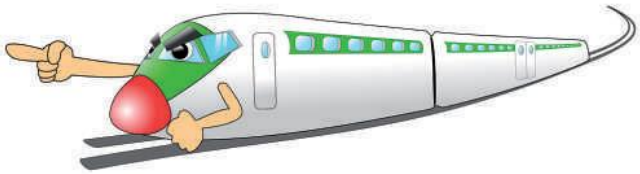
In Economics, it is necessary to assume that economic agents are rational in their decision making. This means economists assume that economic decisions are made with a view to maximising benefits and minimising costs. Without this important assumption, the predictions made by economists become much less reliable.

However, assume now that the farmer decided to use the land for guava production and expects to receive $80,000 per year. This is clearly an irrational decision for a farmer who is solely motivated by profit. The opportunity cost of guava production is now the $100,000 of revenue that has been sacrificed. In this case, the farmer has not minimised opportunity costs because the opportunity cost of the decision is $100,000 (the money that could have been earned from the "next best alternative") when it could have been $80,000.

Further applications of opportunity costs

Each of us experience opportunity costs every day of our lives simply because we make economic decisions on a daily basis. A decision to leave school at the age of 17 may come with financial benefits, such as a full-time income, as well as other benefits, including freedom from the rules and constraints existing at educational institutions. However, it will come at an opportunity cost which is likely to be the benefits that might be provided by a tertiary education, such as a potentially larger income in the future, or possibly improved status in the community.

Once in employment as income earners, individuals will often decide on a change of employer or even a career change. Clearly, these decisions are made on the basis that the opportunity costs of staying with their existing employer have become too great. To illustrate, the Western Australia and Queensland mining boom that occurred in recent years markedly increased the opportunity costs of remaining employed in other areas, particularly for those living in WA and Queensland. The shortage of mining labour resulted in the wage paid to miners increasing to relatively high levels. Someone employed in Western Australia or even Victoria, as a truck driver with Linfox for example, earning $75,000 per year, realised that the next best alternative use of her labour skills would have yielded an income in the order of $150,000 on one of the mines. As the mining wage continued to increase (in order to attract workers to mines), the opportunity costs increased for truck drivers in the transport industry, and many truck drivers moved from the transport industry to the mining industry. This was a rational decision by these economic agents who were keen to minimise the opportunity costs associated with employment. Of course, since the end of the mining boom, the process has worked in reverse, as mining wages have fallen relative to non-mining wages.



Governments have substantial (but limited) funds at their disposal to use for society's benefit and these funds are collected through taxes. The federal government's decision to spend $2 billion towards the construction of a fast railway line between Geelong and Melbourne means that it foregoes or sacrifices the opportunity to use that same $2 billion for investment in health, education or public parks. The opportunity cost in this example is the benefit that could be derived from a $2 billion investment in health, education and/or public parks, whichever is considered to be the next best alternative for the government.

Review questions 1.3

1. Define opportunity cost, using the example of a farmer with acreage to illustrate.
2. Explain how the concept of opportunity cost can be used to illustrate how producers will tend to make rational decisions.
3. Discuss how the government faces opportunity costs when deciding to spend taxpayers' money.
4. Discuss the opportunity costs of a young person deciding to discontinue further education after reaching the age of 17.

Application Exercise 1f: Smoking and opportunity costs

Consumers are bombarded with different messages influencing their decision making, many of which are deliberate attempts by businesses to create a demand for their product through marketing and advertising. Ultimately, the decision to purchase any particular good or service will come at both a financial cost (the cost of the product) as well as an opportunity cost (foregoing the value of the next best alternative). For most purchases, the opportunity costs are quite transparent. The purchase of an apple for $1 means that we forego the opportunity to use that same $1 to purchase a pear. The benefits that are foregone when not purchasing the pear are similar to the benefits to be enjoyed from consuming the apple and these are easily measured (such as satisfied hunger and a healthier diet).

This is not the case with a decision to purchase a packet of cigarettes. For many years tobacco manufacturers have been able to employ sophisticated marketing strategies to attract young smokers, hoping to create brand loyalty and capture them as customers for life. The decision to take up smoking involves opportunity costs, many of which are delayed, making it much more difficult for consumers to make a rational decision. When a young person decides to purchase cigarettes they will equate the cost of a packet of cigarettes, perhaps $20, with the potential benefits, including the perception of being cool, tough or independent. But the long term costs in terms of damage to health and well-being are delayed so far into the future that many young consumers generally don't take this into account when evaluating the net benefits (i.e. the benefits minus the costs) of smoking.

In terms of opportunity costs, the benefit that could be derived from using that $20 in the next best alternative (which might be health food or even saving in the bank) is clearly superior to the net benefits that are gained from smoking. Accordingly, the opportunity costs of smoking are higher than opportunity costs of using that same $20 to buy most other goods. In other words, when consumers decide to spend $20 on a packet of cigarettes, all the evidence suggests that they are not minimising their opportunity costs. But why do people still smoke? Are their hidden or unknown benefits of which only smokers are aware? Are consumers simply making irrational decisions? Or are tobacco manufacturers successfully blinding consumers to the long term damage that smoking causes, making an irrational decision appear more rational?

Questions

1. **Define the term 'net benefits' and discuss how it might influence the decision making of consumers.**
2. **Illustrate one way that tobacco manufacturers seek to persuade consumers to purchase their product.**
3. **Outline some possible alternatives to spending $3000 on cigarettes in a given year.**
4. **Determine the opportunity cost of spending $3000 on cigarettes over a one year period.**
5. **Discuss why the consumption of cigarettes may not be the most rational decision, using the concept of opportunity cost in your answer.**

Application Exercise 1g

Assume that you run a small surf shop selling surf gear and making repairs to boards and equipment. Your electricity bill is quite substantial and you seek ways to reduce it. You discover a device costing $1,000 that will decrease your electricity bill by $50 every year. You figure that you could take the money out of your cash balance to purchase the machine and therefore save $50 per year. Alternatively, you could decide to invest the $1,000 in a term deposit with a bank, earning 10% per annum. The final alternative is that you could leave the $1,000 in the business cheque account, where it earns a low 1% interest per annum.

Questions

1. **Make a list of the competing uses for the $1,000.**
2. **Determine the opportunity cost of purchasing the machine.**
3. **Assuming that your business does not experience cash flow problems, explain why the business should not leave the cash in the business cheque account. In your answer, refer to opportunity cost.**
4. **Referring to opportunity cost, explain why it might be a rational decision not to purchase the machine.**

Application Exercise 1h

Fill the gaps in the paragraph below:

Economics is all about how people make _____ about the use of resources. These decisions must be made because every nation's _____ are _____ when compared to the demands placed upon those _____. This is referred to as the problem of _____ _____.

When we decide to use our resources in some way, it necessarily involves us foregoing the _____to use those same _____ in some other way. This is because the availability of resources is _____ and they have alternative ways of being _____. The opportunity _____ of decision making can be defined as the _____ that could have been gained if the next _____ alternative was chosen.

1.4 The production possibility curve and its applications

A production possibility curve (PPC) is also referred to as the **Production Possibility Frontier (PPF)**. It is an abstract tool used by economists to highlight a number of different concepts, including the concepts of scarcity, choice, opportunity cost, underutilisation of resources and efficiency.

The PPC involves a representation of the production alternatives available to an economy producing only two goods or services, in the form of a diagram. While it is not strictly realistic, because all economies can produce more than two goods or services, it does demonstrate some useful points and helps us to make better economic decisions. The PPC relies on a number of simplified assumptions, the key ones being:

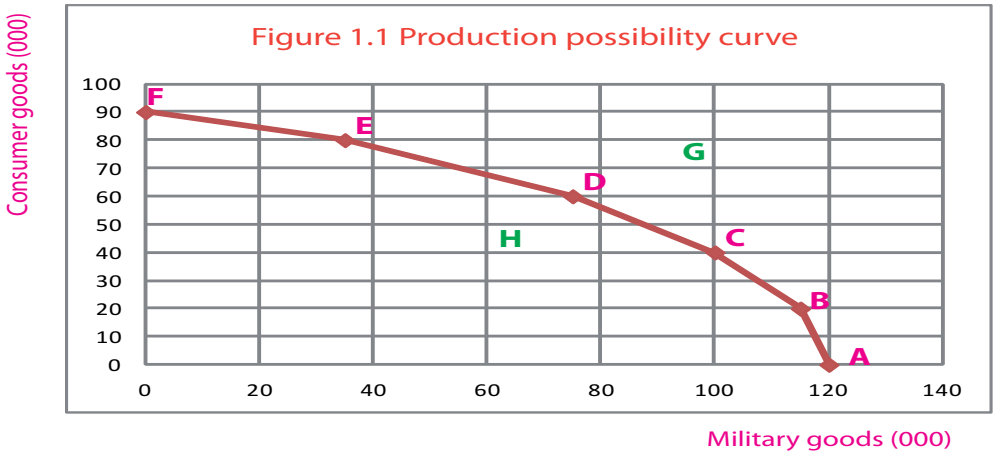
- only two goods (or services) are being produced in an economy;
- all resources or factors of production can be used in the production of either good (or service), and so they are easily able to be swapped between production of the two goods (or services); and
- all resources are fully and efficiently employed.

Assume that an economy can decide to use its resources to produce either military goods, such as tanks and grenades, or consumer goods, such as food and clothing. The production possibilities could be as follows:

Table 1.1

Combination	Military goods (000)	Consumer goods (000)
A	120	0
B	115	20
C	100	40
D	75	60
E	35	80
F	0	90

When we plot this onto a two dimensional diagram we get a production possibility curve (PPC) as follows:



How the PPC illustrates economic concepts

The way the PPC is drawn clearly highlights the concept of **relative scarcity.** Given that we have limited resources relative to the demands placed on those resources, we must make **choices** about the best way to use our scarce factors of production (such as labour and capital) in the production of goods and services for society. In the above example, our choice is between consumer and military goods - a choice faced by every nation in the world. Which is the best choice is a **normative** consideration that ultimately depends on value judgements. Those countries with valuable natural resources and who also feel under threat from powerful neighbours might prefer to choose production combinations C or B. In contrast, those countries without fear of foreign exploitation or military intervention might prefer production combinations E or F.

A movement from one point to another along a PPC means that a country is allocating more to the production of one good and less to another. In the above example, as the economy produces more military goods it involves a sacrifice in the production of consumer goods, clearly an example of **opportunity cost**. If we assume that the economy was initially operating at point F, producing no military goods and 90,000 consumer goods, then a decision to produce 35,000 military goods will involve an opportunity cost expressed in terms of the production of consumer goods that will be foregone – in this case 10,000 consumer goods.

All points along the curve represent the maximum production possibilities achievable at that particular point in time. Points outside the curve (like point G) are not achievable today, but are achievable in the future through an increase in the quantity or quality or resources. For example, if the nation improves its **productivity** (or **efficiency**), which means that it can produce more of both goods with the same volume of resources, then the whole PPC line will shift out to the right.

Points inside the PPC (like point H) indicate that the economy is not efficiently using its resources in the production of military and consumer goods. In other words, there will be an **underutilisation of resources**, meaning that some available resources are not being fully utilised in production. Better or more efficient use of the nation's existing resources would therefore increase production. Producing within the PPC is also likely to reflect some unemployment or underemployment of the nation's resources and every economy is keen to ensure that production occurs on its PPC.

The construction of a PPC is not limited to the production of two goods or services for an economy. It can be used to illustrate the production possibilities available to any economic entity, such as the farmer referred to earlier who can produce either guavas or bananas. Alternatively, it can be used to illustrate the trade-offs/opportunity costs associated with savings and consumption decisions, where the more of our money we devote to consumption, the less we can devote to savings.

Application Exercise 1i

Using the data in the adjacent table, construct a PPC for health foods and junk foods and answer the questions that follow. You should use grid paper, or some other method to ensure your PPC is accurate.

Combination	Health foods (000)	Junk foods (000)
A	200	0
B	190	40
C	170	80
D	140	120
E	100	160
F	0	200

Questions

1. **Discuss the implications for the economy if it produces at point F.**
2. **Discuss the implications for the economy if it produces at point A.**
3. **Discuss the implications for the economy if it decides to reallocate its resources and move from production point F to D.**
4. **Identify the opportunity costs associated with a change in production from point A to E.**
5. **Assume that the economy produces 130,000 items of health food and 100,000 items of junk food. Label this point G on your diagram and discuss its implications.**
6. **Label a point H on the outside of your PPC diagram and provide two examples of changes that could occur in the economy for this point of production to be achieved in the future.**

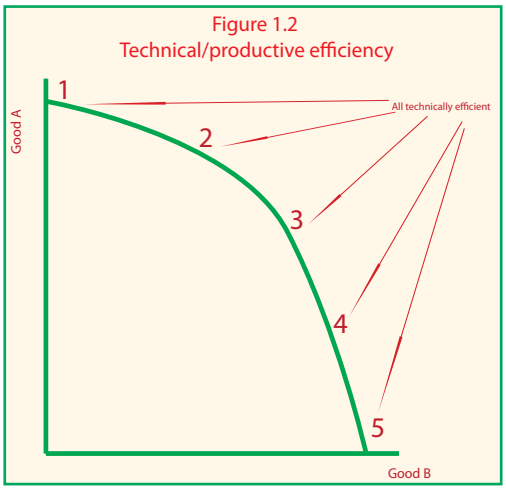
Efficiency and the PPC

The PPC was used to highlight the opportunity costs associated with the production decisions for an economy. It can also be used to distinguish different types of efficiency that exist in economies. In general terms, **efficiency** refers to the extent to which effort or resources are well used for their intended task or purpose. However, there are two major types of efficiency that help to determine how well an economy is functioning – productive and allocative efficiency.

Productive/technical efficiency

Given that the PPC is defined as the maximum production possibilities available when all resources are fully and efficiently employed, by definition, it represents one measure of efficiency – **productive (or technical)** efficiency. Productive (technical) efficiency is defined as that situation where a nation's resources are producing the maximum amount possible (and at the lowest cost). This type of efficiency means that productivity levels in an economy are at their peak, where productivity is defined as the ratio of output (or production) to the total inputs used in production. In this case, the inputs include our factors of production plus other inputs such as materials.

Figure 1.2
Technical/productive efficiency



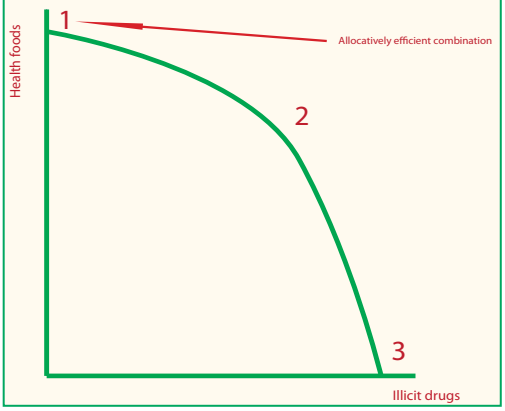
All points along the PPC are productively efficient. The values society places on the goods in question is irrelevant when the focus is on productive or technical efficiency. So long as production occurs along the PPC, the nation is efficient in a productive sense – it has achieved productive (technical) efficiency. This is highlighted in Figure 1.2.

Allocative efficiency

However, economists are also concerned about a different type of efficiency, **allocative efficiency**, where resources need to be allocated or used in the economy in combinations that provide the maximum possible benefits for consumers and the nation. An economy can have the highest levels of technical (productive) efficiency imaginable – where output is as high as possible, at the lowest cost - but this is of little value if the goods being produced in this economy are either not the goods wanted by society, or goods that are not in society's best interests. To illustrate, assume that an economy can produce health foods or illicit drugs. Its PPC might look something like that highlighted in Figure 1.3.

Despite all combinations of production being technically efficient (i.e. points 1-3), there is only one combination that is in the national best interest. This is point 1. This means that if the economy moved from point 1 towards point 2, it would be allocating fewer resources to the production of health food and more resources to the production of illicit drugs. This would clearly not be in the nation's interests as its welfare or living standards would decline.

Figure 1.3
Allocative efficiency
Health foods versus illicit drugs



The most **efficient allocation of resources** (i.e. allocative efficiency) can therefore be defined as one where all of the nation's resources are being used to produce the best possible combination of goods and services such that national welfare or living standards is maximised. This then implies that any change in the way resources are allocated from this point will result in a deterioration of national living standards.

What is, or isn't, considered to be the most efficient allocation of resources for any particular nation largely depends on the values it places on various goods and services. For example, a nation that is highly materialistic is likely to value the highest possible production levels, regardless of the impact on the environment. Compared to another country that is more environmentally conscious, it will therefore tend to produce more carbon intensive forms of energy (creating greater levels of $C0_2$ emissions) relative to more environmentally friendly energy production (such as solar or wind energy).

Review questions 1.4

1. Define production possibility curve (PPC) and list the assumptions underpinning the construction of a PPC.
2. Using Table 1.1, identify the opportunity cost of the nation increasing its production of military goods from 35,000 to 100,000.
3. Using Table 1.1, identify the opportunity cost of the nation increasing its production of consumer goods from 20,000 to 60,000.
4. Discuss the possibility of producing at a point outside the PPC, such as point G in Figure 1.1.
5. Outline the implications for an economy that produces inside the boundary of its PPC, such as point H in Figure 1.1.
6. Explain how the PPC can illustrate the concepts of scarcity, choice, opportunity cost, underutilisation of resources.
7. Define productivity.
8. Define technical (productive) efficiency.
9. Distinguish technical efficiency from allocative efficiency, using a PPC to illustrate.
10. Explain how an improvement in technical efficiency might not be accompanied by an increase in allocative efficiency.
11. Explain what is meant by the most efficient allocation of resources.
12. Discuss why a nation's values determine what it considers to be the most efficient allocation of its resources.

Application Exercise 1j Efficiency, efficiency, efficiency.....

1. **Assume that an economy is achieving technical efficiency and it achieves a boost to productivity as a result of new technology. Explain how this is likely to affect both technical and allocative efficiency. Use a PPC to illustrate.**
2. **Assume that an economy is not achieving technical efficiency and it achieves a boost to productivity, illustrate how this is likely to affect its PPC.**
3. **Assume that an economy is achieving technical efficiency. Explain how it could achieve a more efficient allocation of resources without pushing out its PPC.**
4. **Assume that two countries had exactly the same quality and quantity of resources. Explain why the most efficient allocation of resources as depicted by a point on their respective PPCs is unlikely to be the same.**
5. **Discuss whether the most efficient allocation of resources, as determined by the 'best' production point on the PPC, is more closely related to normative economics or positive economics.**

1.5 The basic economic questions

What and how much to produce?

This is concerned with how we allocate our scarce resources. Should we produce bananas or guavas? Capital goods or consumer goods? Coal fired electricity or solar electricity? Military weapons or better-resourced schools? Once we determine the types of goods and services we will produce, precisely how much should be produced?

Australia has a predominantly **market capitalist economy**, with the majority of Australia's resources privately owned and with the allocation of resources being determined primarily by the **market**. This means that the goods and services produced will ultimately be determined by the wants and needs of consumers. Providing businesses can make a profit from producing these goods and services, a market will develop, where **buyers** and **sellers** come together to exchange goods and services at an agreed price. In this context, 'the market' will determine how the nation's resources are allocated in production. In other words, 'the market' will determine what goods and services are produced and in what quantities they will be produced.

It is useful to note at this introductory stage of the course that a market does not involve a single body or authority dictating the process. Instead it involves consumers and producers, guided primarily by self-interest, determining the type and quantity of goods and services to be produced in the economy. [The role and operation of the market in the Australian economy will be explored in Chapter 3.]

While markets play the primary role in determining what is produced, Australian governments ensure that there is some degree of government intervention to protect against the problems inherent with unregulated markets. These 'problems' are commonly referred to as **market failures** and include the under-production of essential services, such as public housing, prisons, schools, hospitals and emergency services, as well as the over-production of undesirable goods and services such as illicit drugs, some weapons, alcohol and tobacco. In this respect, governments will not only influence what goods and services are produced, but how much production will be tolerated in certain instances. For example, the government provides defence and national security services itself because a market would fail to develop for these services. This is because it would be too difficult for producers to extract payment from consumers, resulting in insufficient profit to justify the investment. In other instances, governments allow a market to develop for goods and services, but will be keen to limit the amount of consumption and production that takes place. Common examples include dirty energy (such as coal fired electricity), tobacco, alcohol and gambling services. Governments will use a range of measures to limit the consumption or production of certain goods and services, such as outright prohibition, taxes, regulations and advertising.

Overall, while governments do play a role, it is the market that ultimately determines what goods and services will be produced and in what quantities. It is therefore consumers who are 'in the driving seat' and experience what is commonly referred to as **'consumer sovereignty'**. This means that consumers primarily determine what will be produced in Australia.

How to produce?

This is also an allocation question and asks what combination of factors of production will be used to produce goods and services. Do we use more **labour** than **capital** (i.e. more labour intensive forms of production) or more capital than labour (i.e. more capital intensive production methods)?

In Australia, most of the decisions about how goods and services are produced is also determined by the market. A mining company, such as BHP, having already decided that it will produce iron ore, will then need to determine the best mix of resources to use in its drilling and mining operations. Its decision will be determined by what it considers to be the most cost efficient method of production, which in turn depends upon how efficient or productive each factor of production is relative to its cost. Given the relative difficulty of extracting ore deposits from the earth, mining companies are heavily **capital intensive** – meaning they use mostly

machinery - because it is the most cost efficient and profit maximising method of production. In this respect, the overall cost of labour is too high relative to the cost of capital, resulting in more capital employed relative to labour.

Governments do influence how goods and services are produced to a limited extent. For example, governments provide taxation and other incentives for businesses to spend more on research and development into new technologies and innovation. This helps the business sector to increase efficiency over time and reduces costs for consumers. Governments also influence the cost of labour for businesses by introducing laws that ensure **minimum wages** are paid, occupational health and safety standards are high and equal opportunity and anti-discrimination measures are enforced. In addition, the government has laws in place that restrict the ability or freedom of foreign labour to offer their services in Australia.

For whom to produce?

This is really concerned with how the goods and services are allocated or distributed to society. If left to free markets, those with greater **economic power** (such as the wealthier members of society) will have greater access to goods and services and some members of society (e.g. those earning minimal incomes) will be unable to purchase some essential goods or services like health care or education. As a consequence, in a free market, only those people with sufficient funds would be able to afford the cost of education for their children. Similarly, some low income earning families would be unable to have access to even basic housing services.

In Australia, it is the market once more that determines who gains access to the majority of goods and services. Income earners in Australia generate the bulk of national income from their contribution to the production of goods and services. Generally speaking, those with higher or unique skills earn larger incomes and will have the greatest access to goods and services. However, this is influenced by government attempts to achieve a more equitable distribution of income and wealth. These government actions include the implementation of a progressive income tax system that redistributes income to lower income earners, as well as the direct provision of goods and services for lower income groups, such as public housing.

How different economic systems answer the three key economic questions

Market capitalism

A market capitalist economic system is one where the allocation of resources like labour and capital is based on the buying and selling decisions of consumers and producers, and productive resources are owned by private individuals and firms. In the section above, we examined how the basic economic questions are answered in the Australian economy, which is a 'predominantly' **market capitalist economy**, and often referred to as a **mixed economy**, with the government playing a role in determining the answers to the basic economic questions. A 'pure' market capitalist economic system is one that therefore implies an absence of government intervention. Under this hypothetical economic system, the answers to the basic questions are determined solely by 'the market' or the 'forces of demand and supply'. This means that:

- the needs and wants of consumers determine what goods are produced;
- the profit motivated behaviour of producers determine how these goods are produced; and
- the given level of income and/or wealth of individuals or groups determines who gets access to those goods.

Planned Socialism

A completely different type of economic system is one in which the government is primarily responsible for resource allocation. Governments may make long-term and short-term plans about what to produce, how to produce it and who receives the production after it is produced. This type of economic system is based on socialist principles, where the emphasis is not on the ability for 'individuals' to create and amass personal wealth. Instead, the emphasis is on the collective health and wealth of society, or the common good, with the underlying goal to achieve social and economic equality. Under a **planned socialist economy,** the productive assets are state owned (on behalf of the people) and therefore no one individual should be in a position to benefit excessively from the production and/or distribution of goods and services.

Planned Capitalism

An unusual economic system may evolve whereby the government directs the private owners of productive assets to produce certain goods and services. Therefore the output of the country is planned. This has been used by countries during war time when the owners of factors of production are directed to the production of goods and services that are needed for defence. In a **planned capitalist economy**, the ownership of factors of production remains with private individuals, and so it continues to be called a form of capitalism.

Market Socialism

In a **market socialist economy**, the government owns most of the resources (socialism) but markets determine what goods and services are ultimately produced (market system). For example, the businesses may be owned by the government but their operations would be left to independently appointed management who would try to maximise profits based on what consumers wanted most.

Review questions 1.5

1. Discuss what is meant by the three basic economic questions facing the Australian economy.
2. Explain how Australia decides 'what' and 'how much' is produced. In your answer, make reference to the role of markets and why government intervention is needed.
3. Explain how Australia decides 'how' goods and services are produced and outline how the government influences how goods and services are produced.
4. Explain how Australia decides who receives the goods and services that are produced and outline how the government influences who gains access to goods and services that are produced.
5. Explain how other economic systems can answer the three economic questions of what, for whom and how to produce.

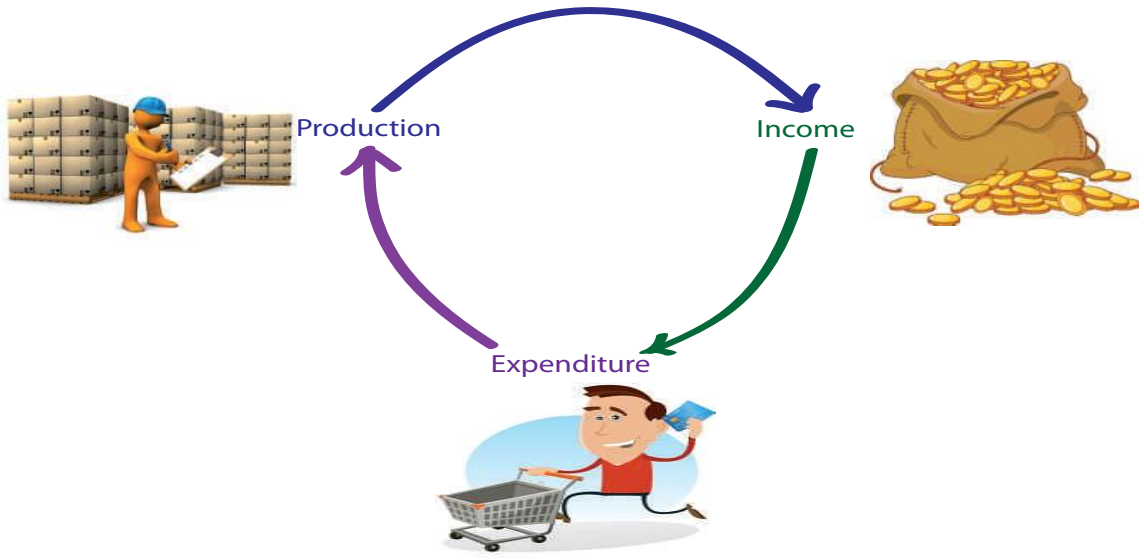
1.6 The purpose of economic activity and the influence on living standards

Earlier we introduced the term 'economic activity' in the context of discovering what economics is about. We said that economic activity refers to production, income and expenditure that takes place in an economy. We said that **production** is the process of making a good or services; **income** is the reward given to those involved in the production of goods and services; and **expenditure** is the spending of income on goods and services.

Over time, the total value of production, income and expenditure in an economy should be equal. This should make sense because all of the production taking place is measured in monetary terms and must eventually be returned to factors of production (such as workers and owners) in the form of income. In other words, those who provide the factors of production receive payment for those factors when they are used in the production process. All of this income will then eventually be spent (i.e. expenditure) at some time in the future on various goods and services (i.e. production).

In its simplest form, economic activity can be characterised by a basic **circular flow diagram** as shown in Figure 1.4, where the values of production, income and expenditure flow from one to the other over time.

Figure 1.4
Circular flow of income



However, this model is based on a number of simplifying assumptions, such as an absence of governments, and it provides no detail about the important sectors of the economy responsible for economic activity. A more realistic model of economic activity includes the key sectors of the economy: households, businesses and governments.

The three-sector and four-flow model of the economy

The circular flow of production, income and expenditure can also be demonstrated by including the three key sectors in a mixed economy that are responsible for economic activity - the **business sector,** the **household sector**, and the **Government sector**. This is shown in Figure 1.5 below.

Figure 1.5
The three sector circular flow model for a mixed economy

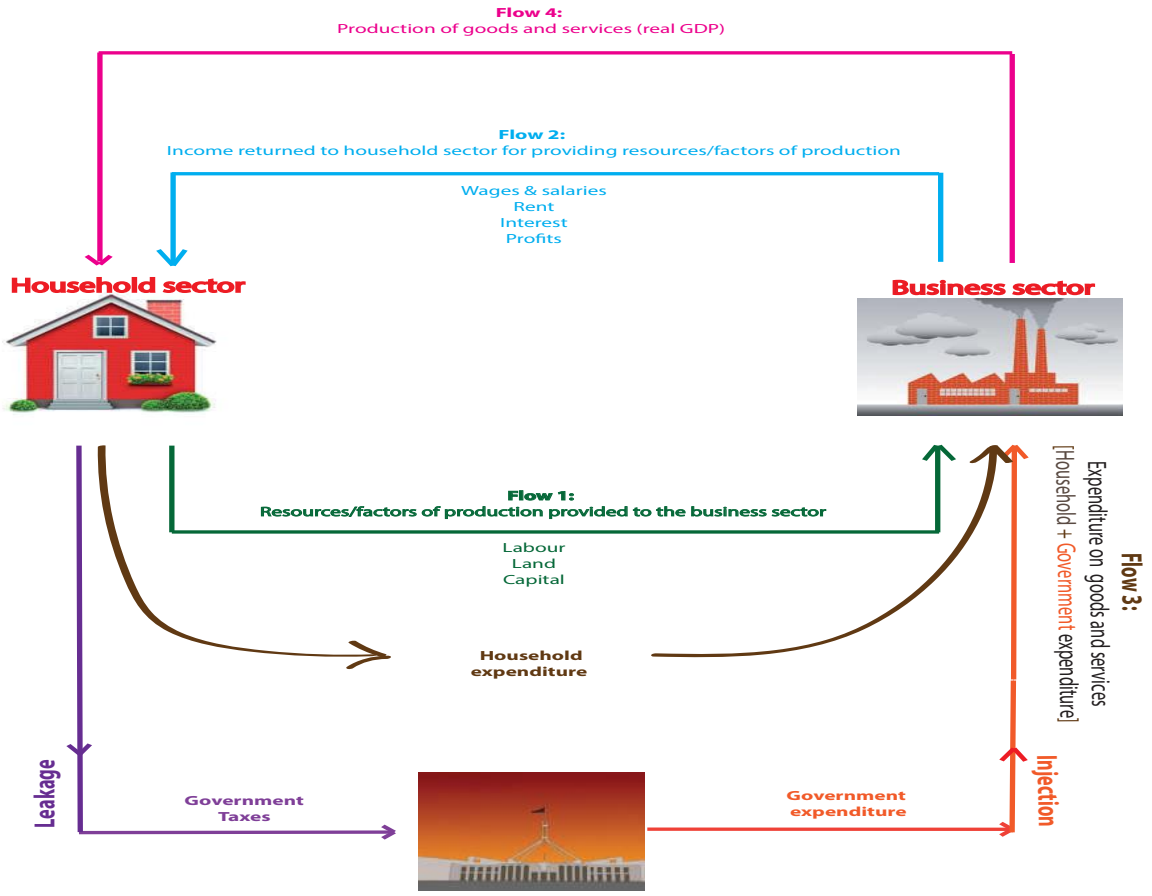


Figure 1.5 shows that the flows of production, income and expenditure occur as a result of transactions between the business and household sectors. The household sector provides the business sector with resources (such as labour) and this is highlighted by Flow 1 in the diagram. In return, the business sector provides the household sector with income (such as wages), which is highlighted by Flow 2. This income is then mostly spent by the household sector on the purchase of goods and services (i.e. Household expenditure), which forms part of Flow 3. However, some of the household income 'leaks' from the model and is paid to the government in tax (Government Taxes) but then returns as an injection in the form of Government expenditure. This results in the total expenditure on goods and services (Flow 3) being made up of both Household and Government expenditure, which then results in the production of goods and services by the business sector - represented by Flow 4.

This model is predicated on there being no international trade (i.e. a closed economy is assumed) and it therefore ignores one other important sector of the economy - the external sector. It also ignores the important flows of savings (leakage) and investment (injection) which are facilitated by the financial sector of the economy. Despite these simplifications, it remains useful because it helps us to gain a better introductory understanding of the core influences affecting economic activity in a country like Australia. For example, it should be obvious that any decision by the household sector to contribute more resources to the business sector (e.g. providing more labour) will ultimately result in more income, expenditure and production (i.e. economic activity) taking place in the economy. This boost in economic activity is therefore heavily linked to the willingness and ability of both the household sector and the government sector to spend money on goods and services that helps to improve Australian living standards. [Chapter 6 explores a more realistic five-sector circular flow model of the economy.]

Economic activity and living standards

Ultimately, economic activity takes place because it helps to improve our individual and collective **standards of living**, both in **material** and **non-material** terms. This means that most people are keen to improve their enjoyment and quality of life over time, which usually takes the form of them being more able to purchase goods and services. In this respect, there is typically a positive correlation between economic activity and living standards, such that an increase in economic activity leads to an increase in living standards. This is because the earning of income leads to expenditure on goods and services that provides people with additional satisfaction. However, living standards are not only related to the ability to consume goods and services and will depend on both material and non-material factors that determine our overall living standards.

Study tip

*The term 'real' in **real** GDP means that the impact of inflation or rising prices has been removed from the calculation of GDP. This ensures that any growth in the value of (real) GDP has occurred because there has been a genuine increase in production (or economic activity) rather than an increase caused by higher prices.*

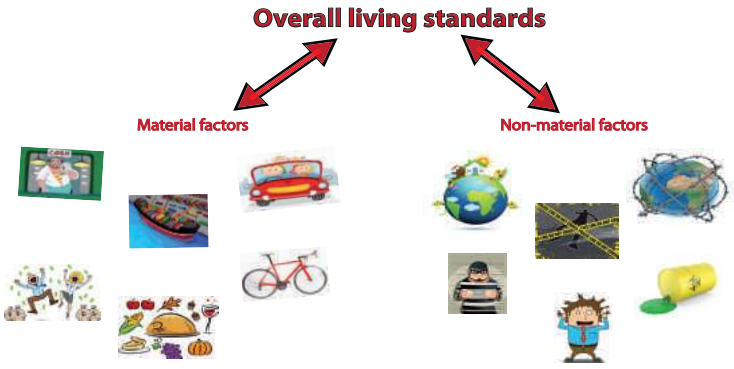
Material living standards

Australian governments are keen to stimulate growth in production as measured by growth in **real gross domestic product**, or real GDP, over time. [Real GDP will be covered more fully in Unit 2 but at this stage simply remember that it is the main statistical measure of production.] Growth in real GDP is also referred to as **economic growth** and it means that there has been an increase in the real values of production, income and expenditure from one period to another. Any increase in real GDP or economic activity will help to raise material living standards, on average, for Australian households. Higher production levels lead to more incomes and/or employment, enabling households to purchase more goods and services, thereby increasing their material prosperity. This is referred to as an increase in **material living standards,** and is most commonly measured by increases in **real GDP per capita**. [Real GDP per capita will also be covered in Unit 2.]

Non-material living standards

Clearly, there is more to our living standards than the ability to purchase goods and services. In other words, there exists a wide range of factors that influence our well-being beyond our ability to purchase a newer car or house, more fashionable clothes, or the latest technological gadgetry. These influences are often referred to as 'non-material' or 'quality of life' factors that impact on our overall living standards. These include the following types of factors:

- Access to clean air, water and other natural resources
- Access to health and education services
- Congestion or pollution levels
- Depletion of resources
- Exposure to crime
- Job satisfaction levels
- Leisure time
- Stress levels
- Life expectancy
- Freedom of expression
- Income and wealth inequality
- General happiness levels
- Quality of goods and services available
- Levels of gender equality
- Lack of social conflict.



Some of the factors above relate to the non-material benefits attached to any growth in economic activity, such as the satisfaction gained from employment or the reduced stress levels associated with earning an income and building a stockpile of wealth. However, a number of the factors on the list are non-material costs associated with economic growth. This includes congestion, pollution and depletion of resources. The benefits of economic growth will always need to be weighed up against the costs of economic growth when determining the overall impact on living standards. Government policies that seek to take into account the changes to **overall living standards** will be explored more fully in Unit 2. But first, it will be useful to first examine the nature of both 'trade-offs' as well as cost-benefit analysis.

Review questions 1.6

1. Outline the relationship between production, income and expenditure using Figure 1.4 to illustrate your response.
2. Refer to Figure 1.5 and describe the flows that represent economic activity.
3. Explain a factor that could contribute to a rise in economic activity. Use the three sector model to illustrate.
4. Describe the general link between economic activity and living standards.
5. Distinguish between the material and the non-material factors that impact on living standards.
6. Identify two separate factors that could contribute to growth in material living standards.
7. Identify two separate factors that could contribute to growth in non-material living standards.
8. Discuss whether an increase in economic activity will lead to an increase in overall living standards.

1.7 The need for trade-offs and cost-benefit analysis

As economic agents, any decision we make will typically be made with a view to maximising our satisfaction, and these decisions will always involve **trade-offs**. This means that to gain something of value with our time or money, we necessarily forego the opportunity to do a range of other things with that time or money. For example, a decision to spend $1,000 on jewellery involves trade-offs in terms of what we could have been purchased with that $1,000, such as purchasing a holiday, a new smartphone, or donating the money to charity. Alternatively, a decision to spend excessively long hours at work might involve a trade-off in terms of one's health in the long term. These trade-offs are necessary because, to varying degrees, we have a finite amount of money to spend (or resources to use) and an infinite number of uses for that money (or resources). This is of course tied to the core problem of **relative scarcity** and **opportunity costs** that we examined at the start of this text: our resources are scarce relative to the unlimited demands placed upon those resources. It therefore begs the question: 'what is the difference between trade-offs and opportunity costs?'

Relative scarcity will necessarily result in one or more trade-offs being made, such as the holiday, the smartphone or the donation being traded-off for the purchase of the jewellery worth $1,000. However, the existence of the trade-offs creates an opportunity cost that is quite unique in terms of the value of the next best alternative that has been foregone. For example, if your next best choice was a $1,000 donation to charity, then this becomes the opportunity cost, despite it being one of three things being traded-off when purchasing jewellery. Accordingly, opportunity cost is more specific, narrowing the focus to only one of the trade-offs: the trade -off that was considered to be most valuable and therefore most difficult to forego.

There are numerous examples of specific trade-offs that are made at both a **microeconomic** level and a **macroeconomic** level. For example, trade-offs experienced at the microeconomic level might include:

- The trade-off between spending and saving
- The trade-off between work and leisure.

Trade-offs experienced at the macroeconomic level might include:

- The trade-off between economic growth and the environment
- The trade-off between efficiency and equity.

Examples of trade-offs

The trade-off between the current (or **short run**) and the future (**long run**) is perhaps the most common form of trade-off experienced by economic agents. Given that time is arguably endless, and most of us live for a relatively long period of time, our economic decisions will need to balance our current needs against our future needs. For example, trading -off **current consumption** for **future consumption** means that our living standards will be lower today and higher in the future. This type of trade-off will typically involve **saving** more of our current day income for use in the future. It is effectively transferring consumption through time, from today to some future date. Conversely, any decision to **borrow** money today to support current consumption involves trading-off future consumption. In this case, it is once again transferring consumption through time, but this time from the future to today.

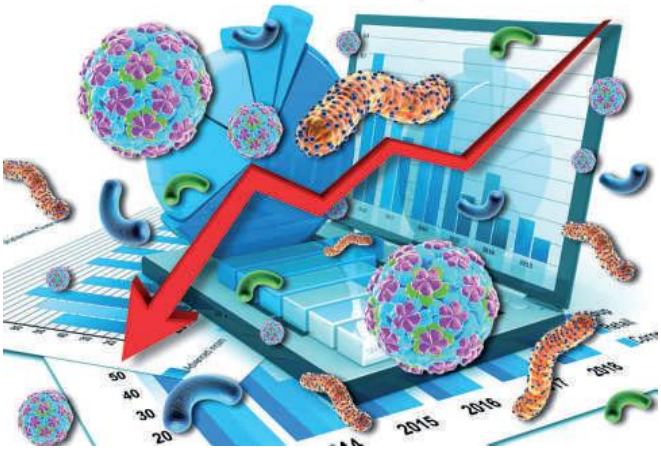
The trade-offs and opportunity costs associated with delaying or not delaying current consumption will vary over a person's lifecycle. Generally, as we age, we are more likely to have responsibilities and be closer to retirement. As a consequence, our willingness to think about the future increases and it becomes much easier to trade-off current

consumption for future consumption. This contrasts with young people, who are generally less concerned about the future and find it more difficult to envisage retirement. This means that the opportunity costs for older people of delaying consumption will be lower compared to younger people, who are not only less willing, but less able to save for the future.

The trade-off between current and future is also one that is regularly faced by businesses and governments. The end of the **mining boom** in Australia over recent years saw mining companies slow down the rate of spending on capital equipment and productive capacity and instead focus on saving some of the gains that were earned during the boom years. They decided that continued spending and expansion today would ultimately result in excess capacity in the future. In contrast, when the mining boom was at its peak, with very high prices being received for Australian minerals, companies decided to spend heavily on capital expansion (e.g. expanding mine capacity) in order to take advantage of the growing demand that was expected to continue into the future.

With respect to governments, their decisions constantly balance the needs of the future with the demands of the present. Currently, this is particularly evident given our **ageing population** and the negative impact this is expected to have on our future living standards. With an increasing proportion of the Australian population nearing retirement age, the large exit of workers from the labour force will cause the rate of growth in economic activity (i.e. economic growth) to slow and government expenditure to rise (as more retirees will require the aged pension and health care costs will accelerate). This will have major negative implications for the government's finances (i.e. its budget position) in the future, with income from taxes expected to fall and expenditure on health and welfare expected to rise. Without acting today to protect against the possibility of a much higher budget deficit (government spending exceeding income), future generations of Australians will be forced to face the burden of supporting older Australians. In essence, failure to act today means that we would be trading-off future prosperity for current consumption. As a consequence of the need to trade-off the current for the future, recent governments have developed policies that seek to address the trade-off. This includes measures to expand the size of the future population, by encouraging a higher birth rate and immigration of younger persons, as well as efforts to reduce the budget deficit and return the budget to surplus in the medium term.

COVID-19 is the most severe pandemic that the world has experienced since the Spanish flu of 1918, forcing governments to make decisions that involved significant trade-offs. In Australia, state and federal government responses to the pandemic centered around the need to minimise infections, reduce the mortality rate and manage the demand on health systems. A key plank of government responses to the pandemic was the implementation of strict lockdown measures. These lockdowns were particularly severe in the state of Victoria and involved restrictions on both the free movement of individuals, as well the ability of businesses to operate. These lockdown measures reflected the government's view that the physical health and well being of Victorians was paramount and that lockdowns were worth pursuing despite the costs imposed. These costs included both the economic costs, in terms of reduced economic activity, as well as the social costs in the form of reduced freedoms and the increased risk of mental health issues arising from social isolation.



This provides an example of a trade-off in the sense that the government (and Victorians to the extent that they agreed with the lockdown measures) was prepared to trade off the social and economic costs in the short term in order to enjoy the longer term benefits associated with better health (and economic) outcomes once the disease is controlled via the development of effective vaccines and (herd) immunity. [For an insight into a cost/benefit analysis of the lockdowns, refer to Extension Exercise 1l.]

The other common example of a trade-off faced by governments relates to **climate change**. It is generally accepted that excessive carbon emissions associated with the production and consumption of goods and services is contributing to global warming and changes to the climate that are expected to result in longer term costs. The longer term costs associated with climate change include the increased incidence of natural disasters and the economic and social costs this imposes on communities and the economy more generally. Australian governments have therefore been faced with decisions that effectively trade-off current rates of economic activity, and the benefits this provides, against future rates of economic activity. In short, acting to address climate change today via the implementation of policies such as carbon pricing, or a carbon tax, will negatively impact on current rates of economic activity. This is because producers will face higher costs (e.g. from a carbon tax or a requirement to purchase carbon permits) which results in higher prices and reduced demand for and production of goods and services. In contrast, delaying action on climate change today will preserve current rates of economic activity, but come at the expense of greater environmental damage and the negative

economic and social consequences that are expected to follow. This means that more progressive or aggressive policies to reduce carbon emissions today effectively trade-off current rates of economic activity and living standards for future rates economic activity and living standards. The reverse applies in the event that the government makes little effort to reduce carbon emissions today.

Application Exercise 1k: Consume now or save for the future?

Income that we earn can either be consumed (i.e. spent on consumption goods and services) or saved (e.g. deposited in the bank). Given that savings should accumulate (and become wealth), they will eventually be spent some time in the future. In this respect, savings represent future consumption or 'deferred' consumption. This means that any given level of income today can either be spent on current or future consumption. It is in this respect that saving money is often referred to as 'an investment'- because it results in future benefits for the saver. Accordingly, the more of our income that is devoted to current consumption, the less that is devoted to future consumption and vice versa. This means that our decision to consume or save necessarily involves a **trade-off**. To become wealthier in the future we need to trade-off current consumption in order to create room for savings, which can then be invested for wealth creation. Overall, if we 'party' too hard today, we may have less opportunity to 'party' tomorrow, and if we prepare too much for tomorrow, we may not enjoy today as much as we could. The trade-off between current and future consumption (or consumption and savings) is clearly a personal choice and ultimately depends on one's ability or willingness to think beyond the short term.

Questions

1. **Explain why savings is also referred to as 'deferred' or 'future' consumption.**
2. **Discuss how a decision to save more today involves a trade-off.**
3. **Discuss how a decision to save less today will impact on your living standards over time.**
4. **Outline two ways that a person can increase their wealth over time.**
5. **Discuss what is meant by the expression: if we 'party' too hard today, we may have less opportunity to 'party' tomorrow.**

Cost-benefit analysis

The need for trade-offs will often involve the need for a **cost-benefit analysis** to help determine the best trade-offs to make - one that minimises the **opportunity cost** associated with any given decision.

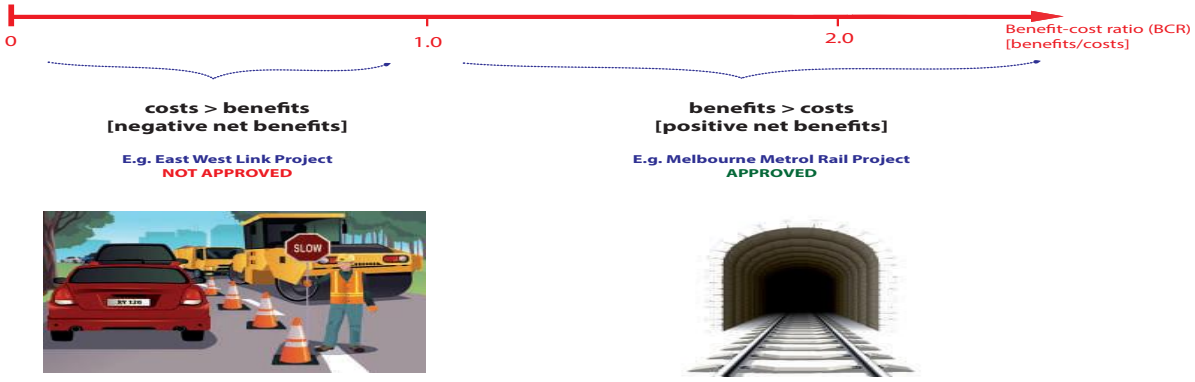
A cost-benefit analysis is a comparison of the expected costs and the expected benefits of a particular course of action or project. Most of us will conduct a simple cost-benefit analysis whenever we make a decision about how to spend our time or money. This is usually completed in our minds, without the use of technology or other tools, and includes everyday decisions such as whether to attend school, whether to smoke cigarettes or drink alcohol, or whether to indulge in excessive consumption of fatty foods. Clearly, these types of decisions necessarily involve weighing up whether the benefits of a particular course of action outweigh the costs. In the case of cigarettes for example, consumption today will provide benefits in the short term (e.g. relieving stress or looking 'cool') but will ultimately be outweighed by long term costs in the form of poor health. Many people will be able to make this determination without any complex calculations or detailed analysis, choosing to refrain from cigarette consumption as the widely known evidence points to it being extremely damaging to the long term health of smokers.

More complex cost-benefit analyses are undertaken by governments (and businesses) before a decision is made on whether to proceed with a major project (such as the construction of a new road or railway) or invest the funds in some other activity. The cost-benefit analysis will generally become a key component of 'the business case' put forward by the government and will often take a considerable period of time to prepare, involving the expert input of numerous professionals, including accountants, economists, actuaries, and other finance professionals. All of the **benefits** and **costs** will typically be listed in a common unit of measurement (i.e. money), with future costs/benefits valued in current dollar terms to remove the effects of inflation (or higher prices). Once the experts have itemised all costs and benefits in current dollar terms, the project will only become viable if the benefits outweigh the costs (i.e. the **net benefits** are positive and not negative). It is also common to refer to this measure as a '**benefit-cost ratio**' (benefits divided by costs).

In a benefit-cost ratio, a ratio greater than 1.0 indicates that a project's benefits outweighs the costs, whereas a ratio of less than 1.0 indicates that the costs outweigh the benefits. See Figure 1.6 below for further clarification.

There have been numerous examples of cost-benefit analyses being conducted by governments and other groups over recent years. Arguably the two highest profile projects have been the Melbourne Metrol Rail Project and the abandoned East West Link Project. The benefit-cost ratio (BCR) for the Melbourne Metrol Rail Project was in excess of 1.0, suggesting that the expected benefits outweighed the costs, and the project was approved. However, the East West Link Project's BCR was less than one and the project did not proceed.

Figure 1.6
Cost-benefit analysis
benefit-cost ratio (BCR)



Given that many costs and benefits are non-monetary in nature, it can be a subjective exercise converting these into monetary values for the purposes of a cost-benefit analysis. For example, the failed proposal to build the East-West Road Link (connecting the Eastern Freeway to the Western Ring Rd) needed to take into account the loss of some public parkland (i.e. parts of Royal Park). Clearly, the loss of parkland will be a bigger loss to some compared to others and the measurement of this 'cost' in the cost-benefit analysis is highly subjective. Despite this, organisations and governments continue to see the value in conducting cost-benefit analyses to minimise the opportunity costs of major economic decisions and ensure that the most efficient allocation of resources is achieved (e.g. allocative efficiency).

Review questions 1.7

1. Outline the relationship between trade-offs and opportunity cost.
2. Explain why trade-offs are necessary. In your answer refer to scarcity.
3. Identify one example of a microeconomic trade-off
4. Identify one example of a macroeconomic trade-off
5. Explain what is meant by 'trading off current consumption for future consumption'.
6. Explain what is meant by 'trading off future consumption for current consumption'.
7. Outline why it is easier for an older person to trade-off current consumption for future consumption compared to a younger person.
8. Describe how mining companies might make a trade-off between current and future spending.
9. Explain how an ageing population has forced the government to make a trade-off between current and future spending.
10. Explain what is meant by the trade-off between the short run and the long run.
11. Describe the trade-off involved in the Victorian Government's decision to implement lockdowns during the COVID-19 pandemic.
12. Define 'cost-benefit analysis' and discuss how a cost-benefit analysis is related to trade-offs and opportunity costs.
13. Briefly outline how a cost-benefit analysis is undertaken.
14. Define 'benefit-cost ratio' (BCR) and explain the implications of a BCR on a project being less than 1.
15. Describe why the state government of Victoria decided to proceed with the Melbourne Metrol Rail Project and abandon the East West Link Project. In your answer, refer to the respective BCRs of the projects.
16. Explain why some of the costs and benefits contained in a cost-benefit analysis are subjective in nature.

Extension Exercise 1l: Cost-benefit analysis

Inquiry into the Victorian Government's Response to the COVID-19 Pandemic: Opening statement by Professor Gigi Foster

….Lockdowns and social-distancing measures inflict unemployment, business collapse, education neglect, health neglect and loneliness. The virus does not do these things; government directives do these things, as we are seeing right now in Melbourne. Like many people around the world, I have come to the conclusion that the costs of wholesale lockdowns are far greater than the benefits.

First, the benefits. In all countries that have gone through a proper first wave, between 0.05 per cent and 0.1 per cent of the population has died with COVID, and deaths are now levelling off. This fraction translates into 12 000 to 25 000 deaths in Australia. So 25 000 is an upper bound estimate of lives lost to COVID in Australia in the counterfactual scenario that we did everything wrong such that we ended up with the worst first wave per capita death count in the world. …[But] far fewer than 25 000 people should be counted as a realistic estimate of the number of COVID deaths averted by lockdowns.

This leads me, then, to the costs of lockdowns, which it would be heartless not to recognise. The biggest cost felt today is that of mental health sacrificed due to loneliness, anxiety and other suffering directly related to locking people away from the broader social sphere. The IMF reports that lockdowns per se have large impacts on economic activity, and these impacts will be felt in suffering for years to come until our economies recover. Children's schooling disruption during lockdowns is also costly in future forgone wages of those children, lower productivity of their parents and lifetime costs of more domestic violence and the development of bad habits.

If these costs count, which they should just as much as should suffering due to COVID now and in the future, including longer run impacts, then we need a common currency in which to measure both them and COVID-related deaths and suffering. That currency can be quality-adjusted life years, statistical lives or WELLBYs—wellbeing years, a currency recently developed at the London School of Economics. QALYs are appealing in the present context because they are commonly used to measure welfare gains when making decisions about the allocation of scarce resources, yet QALYs do not count the importance of loneliness, mental health suffering, loss of dignity or loss of joy. The WELLBY does include those elements and is therefore particularly useful in the present scenario when these human costs loom so large. The COVID deaths that may have been saved so far via wholesale lockdowns are mainly of people over 70. In ethically fraught situations like battlefield triage, for example, or decisions about who gets scarce organs or which drugs to include in the PBS, we recognise that saving a 20-year-old means saving more human welfare than saving an 80-year-old. This recognition is embodied in the concept of QALYs and WELLBYs.

In these same currencies we can measure other costs of our response, including crowded-out or delayed care for problems other than COVID both now and in the future. This includes deaths due to delayed screenings or other care because of lockdowns. More broadly it includes all deaths sacrificed in the future because we were not making investments into approaches to making life better and longer that we would have been making had we not been putting what money we had disproportionately into COVID research while simultaneously reducing the total bucket of money available through stabbing our economy in the stomach, which is happening right now as borders remain closed and trade, tourism, arts and education are taking huge hits with no endgame in sight.

Research and development in health and other welfare-promoting areas is financed mainly by the government, which spends about 40 per cent of GDP in developed countries. When our GDP falls, so too does that spending, which translates into deaths not visible today but occurring over a period of many years. Other less visible costs include the damage to wellbeing of higher unemployment now and yet to come and for young people the long-run scarring of entering a job market in a recession. My back-of-envelope estimate for Australia indicates that even with conservative assumptions that bias the case in favour of lockdowns, wholesale lockdowns harm welfare at least three times more relative to a counterfactual of not locking down in a COVID-19 world.

What should governments have done? They should have controlled fear, directed resources and attention towards protecting the most vulnerable, set policy based on the knowledge of a range of experts rather than only health scientists and evaluated the likely impact of their policy choices on total human welfare as time progressed and more data became available.
https://www.parliament.vic.gov.au/images/stories/committees/paec/COVID-19_Inquiry/Transcripts_Round_2/Foster_12_August_verified_transcript.pdf

[In mid 2022, Professor Foster released an interim report "Do Lockdowns and Border Closures Serve the 'Greater Good'? A Cost-Benefit Analysis." (Draft Executive Summary) by Gigi Foster with Sanjeev Sabhlok. May 11, 2022. The report concludes that the costs of Australia's COVID lockdowns were 36 times greater than the benefits.]

Questions/tasks

1. **Identify some of the costs associated with lockdowns. In your answer, refer to IMF reports.**
2. **Identify some of the benefits associated with the lockdowns. In your answer, refer to 'deaths averted by lockdowns'.**
3. **Explain what is meant by both WELLBYs and QALYs and discuss the relevance of these terms in the context of the costs of lockdowns.**
4. **Explain why Professor believes that the lockdowns are equivalent to 'stabbing our economy in the stomach'.**
5. **Determine the benefit-cost ratio as calculated by Professor Foster and (assuming she is correct) discuss the implications for the opportunity costs associated with lockdown measures..**

1.8 Multiple choice review questions

1. **Which of the following is not regarded as being a 'factor of production'?**
   a) money
   b) machinery
   c) land
   d) workers

2. **The opportunity cost of producing a given product is:**
   a) the price of the product
   b) the best alternative product that could have been purchased
   c) the price paid for the resources used in the production of the product
   d) the value of the best foregone alternative which the resources used in its production could have produced

3. **Economics can be best defined as the study of**
   a) resource allocation in a market capitalist economy
   b) how scarce resources are allocated in an economy by the public and private sectors
   c) how government, households and firms influence business decision making
   d) how limited wants affect an abundance of resources

4. **Which of the following is not regarded as a key factor describing economic activity in Australia?**
   a) Governments
   b) Production
   c) Income
   d) Expenditure

5. **A business has narrowed down the most viable investment options to (1) the construction of a new mine costing $100 million and (2) the purchase of a $100 million shareholding in a foreign mining firm. The opportunity cost associated with the construction of a new mine is which of the following?**
   a) the $100 million spent on the construction of the mine
   b) the benefits that would have been provided by the $100m shareholding
   c) the dividends (share of profits) that would have been generated from the $100m shareholding
   d) unknown since insufficient information is given

6. **With respect to the production possibility curve, which of the following statements is false?**
   a) a movement along the curve, from one point to another, is related to opportunity cost
   b) unemployment is likely to occur when the economy is producing inside the curve
   c) it is not possible to produce at a point outside the curve (i.e. beyond the frontier)
   d) at any point in time, an economy cannot possibly produce at two different points along the curve

7. **Which of the following is not one of the basic economic questions faced by Australia?**
   a) What to produce
   b) When to produce
   c) For whom to produce
   d) How to produce

8. **If a technically productive nation further improves efficiency via the introduction of new technology, then the change may be illustrated graphically by**
   a) a movement along the production possibility curve
   b) a shift outwards of the production possibility curve
   c) a shift inwards of the production possibility curve
   d) a shift towards the production possibility curve

9. **With respect to the distinction between normative and positive economics, which of the following is most likely to be a normative statement?**
   a) Spending on education is more important than spending on science and technology
   b) An increase in personal tax rates will tend to reduce expenditure by households
   c) An ageing population will increase health costs in the future
   d) Payment of school fees is an example of expenditure in an economy

10. Assume that we have the production possibilities shown in the table below:

Combination	Military goods (000)	Consumer goods (000)
A	120	0
B	115	20
C	100	40
D	75	60
E	35	80
F	0	90

The opportunity cost of producing 40,000 consumer goods is:

a) 120,000 military goods
b) 20,000 military goods
c) 115,000 military goods
d) 100,000 military goods

11. In relation to the two sector flow model of the economy, which statement is incorrect?

a) Wages flow from the Business sector to the Household sector
b) Resources flow from the Business sector to the Household sector
c) Expenditure flows from the Household sector to the Business Sector
d) Production of goods and services flows from the Business Sector to the Household sector

12. In Australia, resources are allocated by

a) consumers and their demand for factors of production
b) producers and their demands for scarce resources
c) 'the market' primarily, with some government intervention (or planning)
d) government decision making, with a limited role for 'the market'

13. Which of the following is most likely to increase material living standards?

a) Increased levels of production
b) Increased freedom of expression
c) Reduced levels of stress
d) Increased leisure time

14. The need for trade-offs in economics is closely related to which of the following?

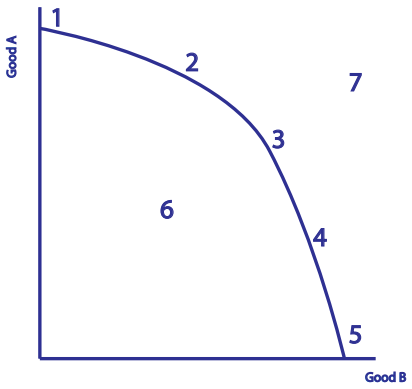
a) The concept of opportunity cost
b) How to produce goods and services
c) Non-material living standards
d) The circular flow of income

15. Relative scarcity in economics means that

a) The demands placed upon resources are very high
b) The demands placed upon resources are excessive when compared to the availability of those resources
c) Resources available for use in production are limited
d) Economies experience shortages of all factors of production

16. In relation to the Production Possibility Curve (or frontier) to the right, which of the following statements is correct?

a) Points 1 to 5 represents production combinations where productive efficiency is being achieved
b) A movement from point 1 to 4 means that the economy will be producing a combination of goods and services that better satisfies society
c) Point 6 represents a production combination where allocative efficiency is being achieved
d) A movement from point 5 to 3 means that fewer resources will be-allocated to the production of Good A



17. Which of the following is least likely to push the PPC outwards in Australia?

a) An increase in productivity
b) A discovery of iron ore deposits
c) Investment in a super fast broadband network
d) A large decrease in the number of skilled migrants to Australia

18. Which of the following is incorrect in relation to the benefit-cost ratio (BCR)?

a) A BCR greater than one suggests that the net benefits of a project are positive
b) A BCR less than one suggests that the costs of a project outweigh the benefits
c) A BCR for a project that is too high suggests that a project is likely to be rejected
d) A BCR is calculated by dividing the benefits of a project by the costs

19. Which of the following factors about a cost-benefit analysis is incorrect?

a) A cost-benefit analysis is usually subjective which reduces the value of a cost-benefit analysis
b) A cost-benefit analysis helps businesses and government achieve a more efficient allocation of resources
c) A cost-benefit analysis will usually be done using a common unit of measurement (e.g. money)
d) A cost-benefit analysis is typically completed for major government projects that are planned for the future

20. Which of the following is not a return to the Household sector for their contribution to production?

a) wages
b) expenditure
c) profits
d) interest

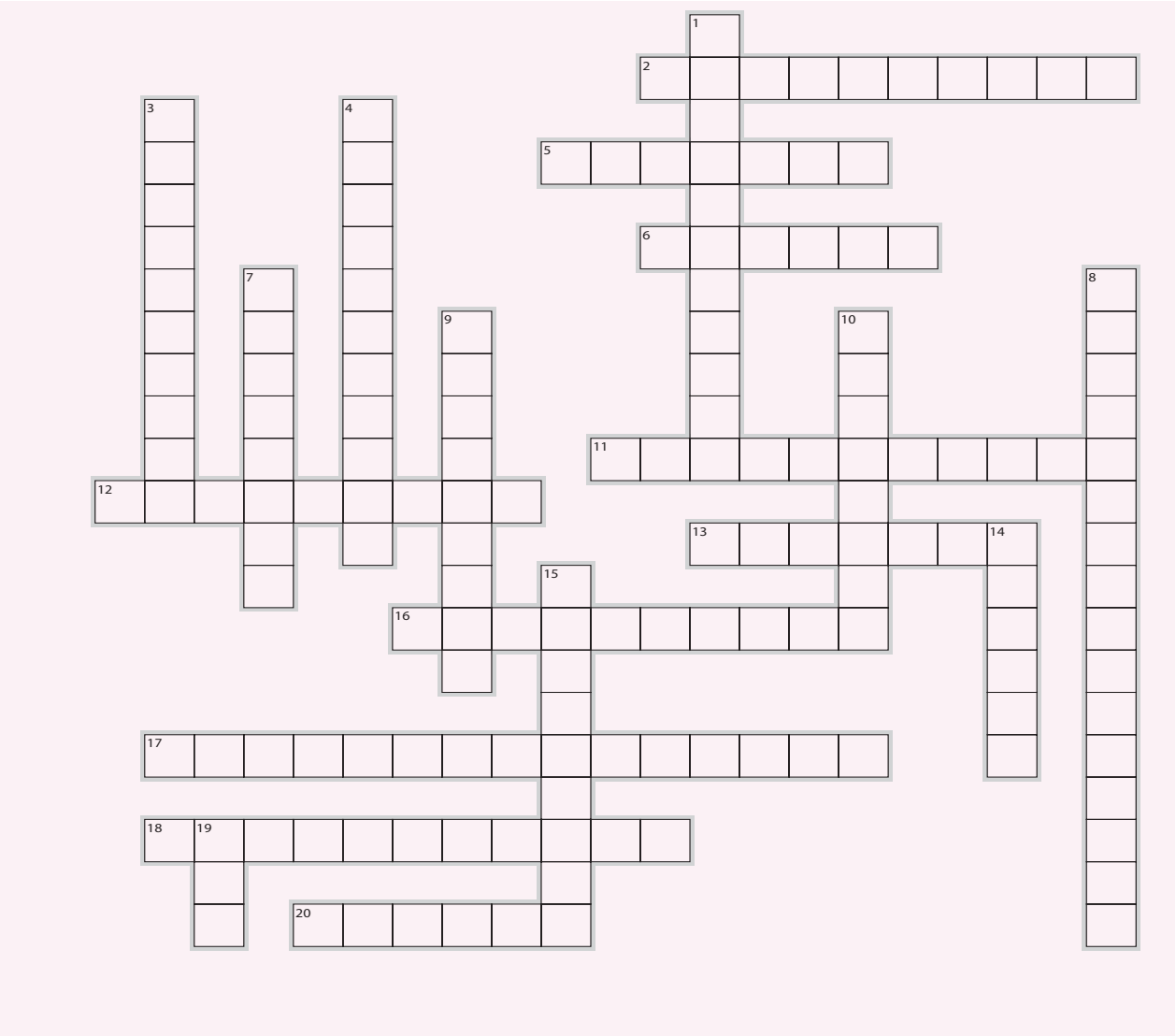
1.9 Chapter crossword puzzle

Across

2. The process whereby goods and services are made and also refers to the total amount of goods and services that have been made over a period
5. Any place or region around the world where production of goods and services takes place
6. This primarily determines how resources are allocated in Australia
11. When this ratio is above one it suggests that a project's benefits outweigh its costs (2 words)
12. Factors of production, such as labour and capital
13. Resources that have been made by combining labour and natural resources to create a more sophisticated input in the production process
16. The type of efficiency where the resources are allocated in combinations that create the maximum possible benefits for the nation
17. This is made up of both material and non-material factors that impact on our quality of life (2 words)
18. This is a cost that is measured in terms of the benefit foregone (or sacrificed)
20. Money received by those involved in the production of goods and services, such as wages

Down

1. The exchange of money or something else of value for something in return
3. The type of efficiency where a nation's resources are producing the maximum amount possible (and at the lowest cost)
4. Spending of income on goods and services
7. This is related to opportunity cost and refers to something being sacrificed when a choice is made (2 words)
8. Unlimited wants compared to limited resources (or money) that are used to satisfy these wants (2 words)
9. A part of the private sector that is not part of the business sector
10. Those economic statements that can be verified or tested to be either true or false
14. The reward for this factor of production is most commonly wages
15. Economic statements or claims that are based on opinion or value judgements
19. The acronym used to represent the production alternatives available to an economy



1.10 Chapter summary

1. An economy exists in any place or region around the world where production of goods and services takes place, expenditure on those goods and services occurs and income is made from the selling of those goods and services.
2. Economics primarily concerns why and how individuals or groups make decisions about the transactions they will undertake on a daily basis.
3. Fact based economic statements come under the banner of positive economics and they can be verified or tested to be either true or false. In contrast, statements or claims that are based on opinion or value judgements come under the banner of normative economics.
4. Microeconomics is the study of the economic behaviour of individual consumers as well as businesses whereas macroeconomics involves the analysis of economy-wide phenomena, such as economic growth, unemployment and inflation.
5. Relative scarcity is the core problem determining decision making in every economy around the world. It is defined as the wants and needs of societies being larger than the resources available to satisfy those wants and needs. This creates the need to make economic decisions and choices.
6. The needs of individuals or households in societies can be defined as the basic goods and services that are necessary for survival.
7. Resources are those things that are used to produce goods and services and are also referred to as 'factors of production'. Land or natural resources are all those resources that occur in nature. Labour refers to the mental and physical effort by humans in the production process. Capital refers to those resources that have been made by combining labour and natural resources to create a more sophisticated input in the production process. Entrepreneurship (or enterprise) refers to the skills of those individuals who combine our resources to produce goods and services.
8. The producers involved in decision making face the problem of relative scarcity by determining the best way to combine resources in order to best satisfy consumers and therefore make the most profit. Income earners face the problem of relative scarcity when they determine how best to use their income earning capacity, or their skills and labour, in order to derive the best possible outcome. Consumers face the problem of relative scarcity when they make decisions about how to turn their income or wealth into the satisfaction provided by spending

or consumption.

9. Opportunity cost is the benefit foregone (or sacrificed) when choosing one alternative over others and is measured by the value of using the resources in their next best alternative use.
10. All rational economic agents will seek to minimise their opportunity costs when making decisions or undertaking economic transactions.
11. The Production Possibility Curve (PPC) is an abstract tool used by economists to highlight a number of different concepts, including the concept of opportunity cost. It involves a diagrammatic representation of the production alternatives available to an economy producing only two goods or services.
12. A movement from one point to another along the PPC means a country is allocating more to the production of one good and less to another. All points along the curve represent the maximum production possibilities achievable at that particular point in time. Points inside the PPC reflect that the economy is not using its resources efficiently and there is an underutilisation of resources.
13. Technical (productive) efficiency is defined as that situation where a nation's resources are producing the maximum amount possible (and at the lowest cost).
14. Allocative efficiency occurs when resources are allocated in combinations that derive the maximum possible benefits for consumers and the nation.
15. The most efficient allocation of resources occurs when all of the nation's resources are being used to produce the best possible combination of goods and services such that national welfare or living standards is maximised.
16. If 'the market' determines how the nation's resources are allocated, then consumers and producers, guided primarily by self-interest, determine what goods and services will be produced, how these goods are produced and who gains access to or enjoyment of these goods and services.
17. No country allows 'the market' to solely determine the allocation of resources because markets fail in many instances. This means that markets, left unregulated or without any form of government intervention, will lead to an undesirable (or inefficient) allocation of resources.
18. Australia has a market capitalist economy, with approximately 80% of Australia's resources privately owned and with the allocation of Australian resources being determined primarily by the market.
19. In Australia, a combination of government decision making and 'markets' will answer the basic economic questions of what to produce, how to produce and for whom to produce.
20. Other economic systems exist which feature a lesser role for the market and a greater role for central authorities or governments. These systems typically have a greater emphasis on the collective health and wealth of society, or the common good. These systems include Planned Socialism, Market Socialism and Planned Capitalism.
21. Economic activity in Australia, characterised by the production, income and expenditure taking place in the Australian economy, is undertaken or influenced by individuals or groups operating within either the public or private sector.
22. Economic activity takes place because it helps to improve our individual and collective standards of living, both in material and non-material terms.
23. Australian governments are keen to stimulate growth in production as measured by growth in real gross domestic product, or real GDP, over time.
24. There is more to our living standards than the ability to purchase goods and services. In other words, there exists a wide range of factors that influence our well-being beyond our ability to purchase goods and services (e.g. access to clean air and leisure time).
25. As economic agents, any decision we make will typically be made with a view to maximising our satisfaction and these decisions will always involve trade-offs.
26. Our economic decisions will need to balance our current needs against our future needs.
27. Trading off the short run for the long run is very similar to trading off the current for the future. Similarly, trading off the long run for the short run is very similar to trading off the future for the current.
28. As a general rule, decisions made with short term benefits in mind will often involve a trade-off in the form of long term benefits that are necessarily sacrificed.
29. A cost-benefit analysis is a comparison of the expected costs and the expected benefits of a particular course of action or project. All of the benefits and costs will typically be listed in a common unit of measurement (i.e. money), with future costs/benefits valued in current dollar terms to removes effects of inflation (or higher prices).
30. In a benefit-cost ratio, a ratio greater than 1.0 indicates that a project's benefits outweigh the costs, whereas a ratio of less than 1.0 indicates that the costs outweigh the benefits.

Chapter 2
Economic agents

2.1 Economic agents and the concept of the private and public sectors

Economic agents

Economic agents are individuals and organisations that participate in the economy, and make economic decisions. There are numerous economic agents including consumers or households, businesses, social enterprises and not-for-profit organisations, such as charities, as well as special interest groups including trade unions. These economic agents form the **private sector** in the economy. In contrast, **public sector** economic agents include local, state and federal governments, government business enterprises (GBEs) such as Australia Post, and statutory authorities such as the Reserve Bank of Australia (RBA) and the Australian Competition and Consumer Commission (ACCC). In short, the 26 million people who populate the Australian economy are all considered economic agents whether they are consumers, workers, politicians, economists or entrepreneurs.

Economic agents participate in the economy in numerous ways. This includes households and businesses buying and selling resources in factor markets, and buying and selling goods and services in product markets. It includes the government collecting taxes and spending the funds raised on collective goods and services, and formulating and implementing economic policies. It also involves financial institutions collecting savings deposits and issuing loans to fund the consumption and investment undertaken by households and businesses, and special interest groups such as ACOSS (Australian Council of Social Service) advocating that the government increase the size of transfer payments for disadvantaged members of society.

Private and public sectors

The Australian economy is a mixed economy with the overwhelming majority of economic activity (about 80 per cent) occurring in the private sector while the remainder takes place in the public sector (about 20 per cent). The private sector relates to private ownership and control of resources, and the economic decisions made by the owners of these resources. On the other hand, the public sector relates to government ownership and control of resources, and the economic decisions made by the government and its agencies.

Households and businesses account for the bulk of private sector activity. Businesses can be unincorporated businesses such as sole traders and partnerships. Typical examples of such entities include cafes, florists and hairdressing salons. They can also be incorporated businesses such as private (or proprietary limited) companies, and publicly-listed (or limited) companies whose shares can be traded on the Australian Securities Exchange (ASX). Examples of such entities include BHP Group, Commonwealth Bank , CSL, Telstra and Woolworths.

All tiers of government, whether federal, state or local, contribute to public sector activity as do GBEs such as Australia Post, Australian Naval Infrastructure, Australian Rail Track, NBN Co., and Snowy Hydro Limited, and statutory authorities like the RBA and ACCC.

Application Exercise 2a: Research into incorporated businesses

Conduct research into private and publicly-listed companies, and prepare a short report.

Part A of your report must highlight five differences between these two types of company structures.

In Part B provide an overview of an ASX-listed company of your choice that addresses the following points:

1. Name of the business
2. The CEO
3. Mission statement
4. Core business activities
5. Market capitalisation and relative position among ASX listed companies
6. Share price, price-earnings ratio and dividend yield
7. Current challenges
8. Future plans

For Part C include an overview of a private company of your choice similar to the one above but omit points five and six.

In Part D focus on a Government Business Enterprise (GBE) of your choice. This section of your report should address the same points as Part C.

Extension: You might also wish to investigate a social enterprise of your choice and present your findings. Here you should focus on the differences between social enterprises and not-for-profit organisations. You should also cover the points contained in Parts C and D.

Application Exercise 2b: Privatisation investigation

Numerous Government Business Enterprises (GBEs) have been privatised over the last three decades including the likes of the Commonwealth Bank, Medibank Private, Qantas and Telstra. Privatisation is the process of selling government assets to the private sector. This is done through an initial public offering (IPO), which facilitates the transfer of government assets into private hands. Prior to privatisation, many GBEs were corporatised. This involves the government retaining ownership but running these businesses as if they were private sector corporations.

Investigate a formerly government-owned asset that has been privatised and prepare a short report that addresses the 4 Ws. Use the 4 Ws as sub-headings for your report.

- Which GBE was privatised?
- Who instigated the privatisation?
- When was the GBE privatised?
- Why was the GBE privatised and has it been successful? Provide evidence, if possible.

Review Questions 2.1

1. Define economic agent and provide some examples.
2. Provide examples of some of the ways that economic agents participate in the economy.
3. Distinguish between the private and public sector, and quantify their contribution to economic activity.
4. Provide examples of three public sector organisations and determine if they are GBEs
5. Define privatisation and provide a possible justification for privatising a GBE.

2.2 The traditional economic viewpoint of consumer behaviour

Economists are concerned with understanding what motivates economic agents and how economies function. Needless to say, economic agents and the economies they inhabit are immensely complex. Therefore, in order to develop theories or models capable of explaining and predicting how economic agents are likely to respond to incentives, or behave in certain contexts, economists must make simplifying assumptions. Such assumptions enable economists to focus on what is most important. The resultant theories can provide economists with powerful insights that can be used to design incentive schemes and economic policies directed at raising living standards and enhancing societal welfare. However, it is always worth remembering that theories/models developed in social sciences, such as Economics, are not perfect.

The traditional economic viewpoint of consumer behaviour has a long history, and is a useful tool for analysing and predicting consumer behaviour. At the centre of this theory is the notion of the 'representative consumer', known as **homo economicus** or 'rational economic man'.

Rationality, self-interest and utility maximisation

Economists assume that consumers are rational. This basically means that consumers act in their self-interest to maximise their **utility** or satisfaction given their **budget (or income) constraint**. Accordingly, a rational consumer will compare the costs and benefits of each choice, and choose those options where the benefits outweigh the costs. This also includes considering the future consequences of their choices. In short, the rational consumer will strive to make decisions that yield the greatest **net benefits** or maximum utility.

What does this all mean in the context of the real world? Consider the following practical examples to illustrate these concepts. A rational consumer might, for example, purchase a Volkswagen Golf if the price of a Honda Civic increases. If their income increases they might buy a more expensive house in a better suburb. To buy that more expensive house they will need to take out a loan that must eventually be repaid, and will be mindful of the future consequences of such a decision.

Study tip

Is utility maximisation possible? The psychologist Abraham Maslow famously said: 'it isn't normal to know what we want. It is a rare and difficult psychological achievement'. Behavioural economists would agree with this statement.

On the face of it, this seems pretty obvious and uncontroversial, given that the consumer response in each situation is reasonably predictable. In this respect, the traditional economic viewpoint is the dominant theory for explaining and predicting consumer behaviour. However, it is not the only theory. The relatively new field of Behavioural Economics uses insights from the field of psychology to enhance our understanding of consumer behaviour. This is explored in detail in Chapter 5, helping to provide a more complete theory of consumer behaviour.

Informed decision making

Economists also assume that consumers have access to relevant and accurate information to make rational decisions. Armed with **perfect information** consumers can calculate and compare the costs and benefits of each choice, and rank these choices based on their relative net benefits. Obviously, the first choice is the optimal or utility maximising choice.

Marginal benefits from consumption

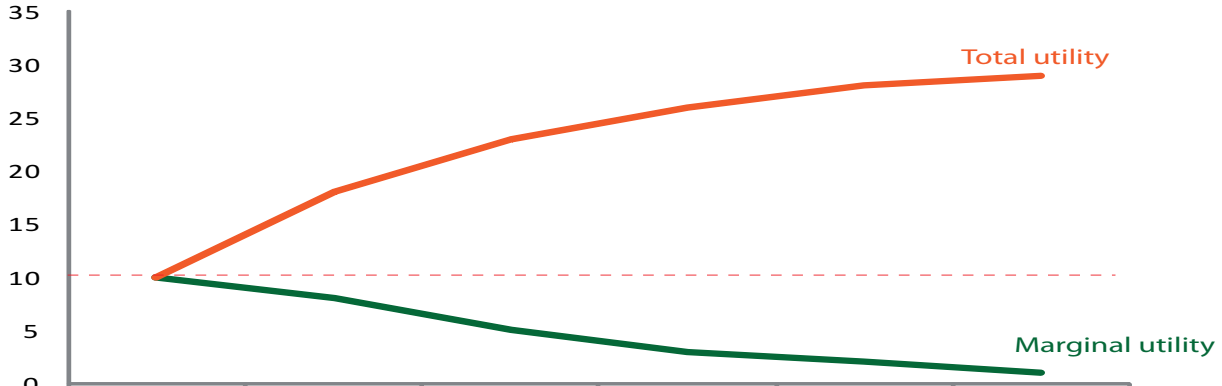
In Economics, the **law of diminishing marginal utility** states that each additional (or marginal) unit of a good or service that is consumed generates less utility (satisfaction) than the previous one. According to this theory, the second unit of something consumed provides less satisfaction (utility) than the first, and the third unit provides less than the second, and so on. Therefore, **total utility** *grows less rapidly* with each additional unit consumed. For a numerical and graphical representation of the law of diminishing marginal utility refer to the pizza example below. In the example, the utility gained from the pizza slices has been calculated using 'Utils' – a theoretical measure of utility (satisfaction) gained from consumption.

Table 2.1: Marginal and total utility of pizza consumption

Pizza	Marginal utility (Utils*)	Total utility (Utils)
1st Slice	**10**	10
2nd Slice	**8**	18
3rd Slice	**5**	23
4th Slice	**3**	26
5th Slice	**2**	28
6th Slice	**1**	29

**Utils are a theoretical measure of utility*

Chart 2.1: Marginal and total utility



1st Slice	2nd Slice	3rd Slice	4th Slice	5th Slice	6th Slice
10	8	5	3	2	1
10	18	23	26	28	29

Table 2.1 and Chart 2.1 highlight that the first slice of pizza that is consumed will provide a relatively high level of satisfaction (utility) for the average person. This makes sense because the first slice is the most 'enjoyable' or 'pleasurable'. The second slice will be slightly less enjoyable and so on, until we eventually get to a point (perhaps after slice 6) where another slice of pizza provides us with no additional satisfaction at all. In other words, the marginal utility (extra satisfaction gained) continues to fall towards zero.

Given that consumers experience diminishing marginal utility, they will seek to consume goods and services in different combinations in order to maximise their total utility over time. For example, when buying 'take-away food' over the course of a week or month, a person is likely to 'mix it up' and visit different fast food outlets, perhaps purchasing pizza one day, sushi the next, and fish and chips the night after. This variety will typically lead to a higher overall level of utility or satisfaction compared to one where a person purchases the same take away food each day.

A practical application of the law of diminishing marginal utility are sales promotions run by service stations where they offer their customers a 50 per cent discount on the purchase of a second chocolate bar or bag of chips. Given that consumers derive less utility from the second confectionary bar, the price discount is used to entice them to purchase an additional chocolate bar. This pricing strategy is often used in a range of markets, including retail clothing, health products and perfumes.

The law of diminishing marginal utility is one of the theoretical underpinnings of the downward sloping demand curve (see Chapter 3).

Review Questions 2.2

1. Explain why economic theories contain assumptions.
2. Describe the traditional economic viewpoint of consumer behaviour. Your response should cover the ideas of rationality, self-interest and utility maximisation.
3. Describe why informed decision-making is an important assumption in the traditional economic viewpoint of consumer behaviour.
4. Explain how the law of diminishing marginal utility can affect consumer decisions. Use an example to illustrate your explanation.
5. Provide an example of how businesses can apply the law of diminishing marginal utility to increase sales revenue.

Application Exercise 2c: Utility

Complete the data in the table below calculating the marginal utility from dumpling consumption.

Dumplings	Marginal utility (Utils)	Total utility (Utils)
First dumpling		15
Second dumpling		28
Third dumpling		37
Fourth dumpling		42
Fifth dumpling		44
Sixth dumpling		45

Questions/tasks

1. **Construct a line graph, plotting the data on marginal utility and total utility. Plot the total utility on the y-axis (vertical) and number of dumplings consumed on the x-axis (horizontal). Ensure you fully label the graph.**
2. **With reference to the graph, explain the relationship between marginal utility and total utility.**
3. **Using what you have learned about the theory of diminishing marginal utility (DMU), explain why the data shown on the graph is likely to be an accurate representation of the average consumer's utility (satisfaction) in consuming dumplings.**
4. **Imagine that you own a shop specialising in the serving of dumplings. Outline how you could use your knowledge of DMU to increase total revenue (i.e. total sales) for the shop.**


Dumplings

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

The authors of *Freakonomics*, Steven D. Levitt and Stephen J. Dubner describe economics as 'the study of incentives'. An **incentive** encourages economic agents to make particular choices. Incentives typically employ benefits or rewards to encourage the desired behaviour. By contrast, a disincentive discourages economic agents from making specific decisions. A feature of disincentives is the use of costs or penalties to influence behaviour. Many economists would argue that the distinction between incentives and disincentives is not particularly important. They would simply say that an incentive is any measure that leads to a change in behaviour. Needless to say, by altering costs and benefits, governments and businesses can motivate consumers and workers to make particular choices, and achieve desired outcomes.

Before reading on, complete the following Give One, Get One thinking routine. This entails you coming up with ideas about how governments can influence consumer and worker behaviour, and list them in the left hand column. Then move around the classroom, and 'get one' idea from each classmate, in return 'giving one' of your ideas to that classmate. Complete as many rows as you can.

How can the government influence the behaviour of consumers and workers?	
My ideas to give	Ideas from my friend

Governments use their control over the tax system and their considerable spending power to influence the decisions of consumer and workers. They can also seek parliamentary approval for new laws to mandate or even prohibit the consumption of certain goods. Put simply, governments use their authority and power to create both incentives and disincentives.

Taxes and tax rebates, subsidies and regulations

Study tip

Externalities are sources of market failure. Market failure describes a situation where the pursuit of self-interest by consumers and businesses results in an inefficient allocation of resources, which compromises the living standards or economic welfare of all members of society. The belief that markets can 'fail' is a justification for government intervention in markets through the use of taxes, subsidies, laws and other policies. Externalities and market failure are covered in greater detail in the VCE Economics Unit 3 course.

Governments seek to encourage the consumption of goods and services that generate positive spillovers or **externalities**. A **positive externality in consumption** occurs when the consumption of a good or service confers a benefit on a third party or bystander. This means that someone who did not pay for the good or service receives part of the benefit from that good or service. For example, when a person gets vaccinated against the flu, it reduces the risk of infection for the individual, but society benefits too. These benefits to society are in addition to the benefits to the individual because a decision to get vaccinated not only protects the individual from catching the flu, but others too, namely those people who have not been vaccinated. The government recognises that it is in society's best interests for as many people as possible to be vaccinated, as it raises the level of immunity among the population (referred to as 'herd immunity'). Moreover, there are many other 'external' benefits that stem from vaccinations, such as fewer working days lost and fewer people presenting ill at hospitals and clinics, resulting in cost savings for the healthcare system.

Study tip

A subsidy is a cash payment. Subsidies can be paid to either the consumer or producer. The former is known as a consumption subsidy while the latter is known as a production subsidy.

For all of these reasons, the government uses **subsidies** or cash payments to reduce the cost of vaccines to encourage more people to get vaccinated. These subsidies can be paid directly to consumers or to businesses providing the vaccines. Alternatively, the government can provide them free-of-charge, as is the case with COVID-19 vaccinations. In the absence of such government intervention, too few resources will be allocated to goods and services that generate positive externalities as people cannot monetise the benefits they provide others. In other words, 'good deeds' such as being vaccinated are not correctly valued by the market.

Sometimes the government can resort to more punitive actions or disincentives. The government can introduce bills to parliament to make laws or regulations that prohibit or mandate certain behaviour. For example, during COVID-19, the government implemented restrictions, lockdowns and stay at home orders to minimise the spread of the virus. In relation to COVID-19 vaccinations, the government was not prepared to mandate vaccinations, but was keen to invoke genuine measures that acted as real disincentives for those refusing to get vaccinated. It devised a range of measures that effectively punished those members of society who were not prepared to vaccinate. This included restrictions on their freedom of movement, such as laws preventing them from attending certain venues, travelling on commercial aircraft and working in some organisations. This is similar to the 'No Jab, No Pay' legislation that came into effect in 2016 that involved parents who do not vaccinate their children (against common childhood illnesses) from accessing government benefits such as the childcare rebate (which covers a portion of the fees charged by childcare centres).

Education also provides positive externalities for society as a whole. For example, a better educated population is likely to:

- generate higher levels of productivity
- lead to more innovation resulting in higher levels of economic growth
- create a more tolerant and harmonious society
- result in less crime
- mean more informed citizens, resulting in better quality government.

For these reasons, the government uses the law to mandate a minimum school leaving age of fifteen and provides education free-of-charge through public schools. In the absence of direct provision by the government, too few resources (such as labour and capital) would be allocated to education, as the costs of educating a child for most parents would be too prohibitive.

On the other hand, a **negative externality in consumption** occurs when the consumption of a good or service imposes

a cost on a third party or bystander. Without government intervention too many resources are allocated to goods and services that result in negative externalities. This is because, when making decisions about what to consume, people typically ignore the harmful effects of their consumption on third parties. That is, they only consider the costs to themselves, while ignoring the costs that accrue to bystanders. For example, the consumption of cigarettes results in negative externalities, as non-smokers can develop smoking-related illnesses from inhaling second-hand smoke (i.e., passive smoking). To curb the consumption of cigarettes, the government uses indirect taxes. Over the past 10 years, the federal government has increased excise on tobacco by more than 300% (from approximately $0.35 to $1.12 per cigarette. The tobacco companies generally pass on any increases in excise taxes to consumers in the form of higher prices, effectively deterring consumption. Of course, this is the government's intention as the increase in the price of a packet of cigarettes leads to a decrease in the quantity of cigarettes demanded. However, because tobacco is an addictive substance, any increase in price results in a less than proportional decrease in the quantity demanded. A World Bank study showed that a 10% increase in the price of cigarettes reduces consumption by about 4% in developed countries and 8% in developing countries.

Study tip

The imposition of an indirect tax on products like cigarettes (or fuel and alcohol) creates a disincentive for consumers to smoke. However, the fact that these goods are addictive (or necessities) means that the taxes also raise significant revenue for the government.

The government can also use the law to create disincentives to smoke. Australia's **plain packaging laws** prohibit tobacco companies from adorning cigarette packets with appealing graphics and prominent brand names. These laws also require cigarette packets to display confronting images of the health effects of smoking accompanied by jarring health warnings such as 'smoking kills'. The aim of such laws is to decrease the demand for cigarettes. Plain packaging laws are also backed up by anti-smoking campaigns in the mass media. For example, QUIT Victoria regularly runs TV advertisements aimed at persuading people to give up smoking. Moreover, laws prohibit smoking in public places such as restaurants, bars, shopping centres and sporting venues. All of these measures are designed to ameliorate the negative externalities associated with the consumption of tobacco.

The government can also use **direct taxes** to influence the behaviour of consumers and workers. For example, the government can incentivise greater labour force participation and greater labour productivity by lowering the marginal tax rates that apply to people's incomes. Personal income taxes are essentially a tax on the wages and salaries people receive in return for contributing to the production process. Therefore, taxing income too heavily can stifle the incentive to work and/or to work hard. By lowering the marginal tax rates that apply to the lower tax brackets and raising the tax-free threshold, unemployed people (particularly those who are unskilled and therefore generally only able to secure low paid jobs) will have an even stronger incentive to secure work. Lower income tax rates mean that these people get to keep more of the income they earn, which makes working relatively more attractive than remaining on welfare and receiving unemployment benefits. Such changes to income tax can eliminate 'welfare traps' caused by a poorly designed tax and welfare system.

Study tip

The marginal tax rate is the tax rate people pay on each additional dollar of income earned. Australia has a progressive income tax system, which means that the marginal tax rate increases as income rises. The goal of a progressive income tax system is to promote a more equitable distribution of income by taxing people according to their earnings, with low-income earners being taxed at a lower rate than higher-income earners.

Additionally, lowering the marginal tax rates on middle- and upper- tax brackets, as announced in the government's *Personal Income Tax Plan*, is likely to encourage people in these tax brackets to work harder and be more entrepreneurial as they get to keep more of the income they earn from their efforts. Stage 3 of the Plan which takes effect on 1 July 2024, will see an increase in the top threshold of the 32.5 per cent tax bracket from $120,000 to $200,000, and the removal the 37 per cent tax bracket completely. The plan means that around 94 per cent of all taxpayers are projected to face a marginal tax rate of 32.5 per cent or less in 2024-25. This compares with a projected 63 per cent of taxpayers in 2024-25 without such a change to current settings.

Another option available to the government is the use of **tax rebates (tax offsets)**. In response to the COVID-19 induced recession of 2020, the government announced the retention of the Low and Middle Income Tax Offset (LMITO). This measure effectively reduces the amount of personal income tax paid by low-and middle-income earners after they lodge their tax returns at the end of the financial year. In monetary terms, eligible households will receive up to $1080 (and couples $2160), boosting their disposable income. At the macroeconomic level, this represents a personal income tax cut of $7.8 billion for households. Given the LMITO is targeted at low-and middle-income earners with a relatively high **marginal propensity to consume (MPC)** this measure would have been reasonably effective in stimulating consumption spending (C) and aggregate demand (AD), and supporting the economic recovery from the recession.

Study tip

The ageing population is a natural phenomenon which refers to an increase in the median age of the population or an increase in the proportion of the population of retirement age (65+). If nothing is done to address this long-term challenge, living standards are projected to decline.

In recent federal budgets the government has made various adjustments to childcare subsidies to make childcare more affordable in order to boost labour force participation. One reason for the relatively lower labour force participation rate among women is the high cost of childcare. If women are allocating the majority of their wage or salary to pay for childcare, it is not really worth their time and effort to work. The childcare rebate aims to make work a better economic proposition. It is predicted that this initiative will incentivise greater labour force participation, helping to address the looming challenge of an ageing population.

Study tip

Moral hazard is a common problem in insurance markets because buyers of insurance cannot be closely monitored. It is an example of 'asymmetric information' as a market failure, an area of Economics that will be covered in VCE Economics Unit 3.

The nature of some types of incentives can lead to unexpected results. A case-in-point is insurance services, which provide monetary compensation in the event of a specified loss, damage, illness or death, in return for the regular payment of a premium. The protection or cover provided by car insurance can create 'perverse incentives', causing insured people to behave recklessly because the insurer rather than the insured person will bear the cost of repairs in the event of an accident.

This is compounded by the fact that insured people cannot be easily observed or monitored, and thus might be tempted to act in an irresponsible way. Unsurprisingly, accidents have a greater probability of occurring. Economists use the term **moral hazard** to describe this situation. The description moral hazard is used because of the heightened 'risk' or 'hazard' of inappropriate or 'immoral behaviour'. In contrast, those people without insurance have an incentive to be more careful because they don't have the 'peace of mind' of being compensated for any losses they might incur.

Further, moral hazard causes more problems as the insurer receives more claims than they anticipated, resulting in a higher number of insurance payouts, forcing them to charge higher premiums for all their customers, even the well-behaved ones!

Application Exercise 2d: Moral Hazard

Most consumers participate in the market for car insurance. To insure their cars, consumers pay an annual insurance premium but also an excess when they make a claim. The excess is the contribution that they make to the cost of repairs if they are involved in an accident and it is their fault. Car insurance policies can be structured to screen buyers of insurance. **Screening** mechanisms are used to induce buyers to reveal important information in order to help sellers of insurance deal with the problem of moral hazard. A car insurance company can offer its customers the choice of two car insurance policies:

Policy No. 1: High annual insurance premium but low excess.
Policy No. 2: Low annual insurance premium but high excess.

1. **Identify which policy a risky driver would select and which policy a safe driver would select. Justify your response.**
2. **Discuss the following proposition: 'Offering its customers the choice of different car insurance policies is a clever screening mechanism.'**

Governments encourage **enterprise bargaining**, whereby businesses directly negotiate with their workers regarding wages and conditions of employment. These negotiations result in enterprise agreements. When negotiating **enterprise agreements,** businesses and trade unions often include productivity clauses, which link wage increases to productivity growth. Higher productivity occurs when higher levels of output are achieved from the same inputs. For example, labour productivity increases when the same hours worked (the input) results in more goods and services (the output) being produced. Moreover, because productivity growth reduces a business' average costs of production, businesses can afford to pay their workers higher wages without having to sacrifice profit margins. Such schemes are designed to incentivise hard work by providing appropriate monetary rewards.

Non-monetary rewards can also be used to motivate workers to work hard. For example, many business firms formally recognise their best workers through awards such as 'employee of the month'.

Review Questions 2.3

1. Distinguish between an incentive and a disincentive, and provide two examples of each.
2. Explain the difference between a tax and a tax rebate (offset).
3. Distinguish between positive and negative externalities, and provide examples of each.
4. Explain how the government uses incentives to promote the consumption and production of goods and services

that generate positive externalities.

5. Explain how the government uses disincentives to discourage the consumption and production of goods and services that result in negative externalities.
6. Explain how a mix of incentives can be used to support stronger labour force participation rates and higher growth in labour productivity.
7. Use the problem of moral hazard and insurance markets to explain the idea of 'perverse incentives'.
8. Explain why enterprise agreements often include productivity clauses.

Application Exercise 2e: Child care and incentives

In Economics, an incentive is anything that motivates an economic agent (e.g. a consumer or a business) to behave in a particular way. Incentives can be extrinsic or intrinsic. An extrinsic incentive is external to an economic agent and includes things such as cash rewards, bonuses, profits and fines. It also encompasses non-monetary incentives, such as peer recognition or disapproval, social status, power or even the threat of incarceration. On the other hand, intrinsic incentives are internal to the economic agent. For example, getting satisfaction from the work one does or the "warm inner glow" from making a positive difference to society, perhaps through volunteering or participating in civic life.

As Levitt and Dubner, the co-authors of the popular Economics book Freakonomics assert "incentives are the cornerstone of modern life". Indeed, understanding them is the key to solving just about any riddle, from match fixing to online dating to violent crime. Economists have great faith in incentives. They believe that properly designed incentive schemes can fix just about any problem, economic or otherwise. At a simple level, price discounting can be an effective incentive for consumers that ultimately helps a business to clear excess (surplus) stock. Similarly, offering complimentary eye tests can incentivise individuals to undergo important testing that has the potential to identify the risk of developing diabetes and conditions such as hypertension. Such information can then be used by the patient in consultation with their doctor to make timely lifestyle changes.

However, seemingly well-designed incentives can sometimes go awry. A case-in-point is the incentive scheme used in childcare centres in Israel. In the coastal city of Haifa, child care centres close at 4.00 pm. They essentially rely on the goodwill of parents to pick their children up on time. More often than not, parents collected their children on time and rarely, if ever, came after 4.30 pm. Parents were rarely late because it meant relying on the generosity of one childcare worker, who would have to stay back to look after the children of latecomers. Being late meant having to face a potentially irate childcare worker and possibly having to make a grovelling apology for the inconvenience caused.

These observations prompted a pair of behavioural economists, John List and Uri Gneezy, to conduct an experiment. What would happen if a financial disincentive, such as a fine, was introduced to discourage parents from picking up their children late? The results were unexpected. The introduction of the financial penalty actually caused parents to show up late. In fact, parents stopped showing up on time entirely.

The experiment involved 10 childcare centres across Haifa. In six of these centres a small fine of $3 per child was introduced for every time a parent showed up more than 10 minutes late. These fines would then be added to parent's monthly childcare bill. In these childcare centres, parents immediately started showing up late, with tardiness eventually settling at about twice the pre-fine level. In other words, the introduction of the fine caused twice as many parents to show up late. Interestingly, tardiness remained unchanged in the four childcare centres that did not introduce fines!

This experiment called into question the so-called 'power' of financial or monetary incentives to bring about the desired change in human behaviour. In the case of childcare centres, non-financial incentives such as avoiding the guilt of inconveniencing childcare workers were far more effective. The introduction of the fine simply meant that parents could assuage their guilt (i.e. they could turn up late 'with a clear conscience'). The great economist, Adam Smith, described 'conscience' as "a permanent partner in an inaudible conversation, who acted as a check and scrutineer". So, in cases like these, it is clear that the power of financial or monetary incentives can be undermined by the role that conscience plays in decision making. Undesirable patterns of behaviour that are ordinarily controlled, to some extent, by the operation of a person's conscience are perversely encouraged by financial incentives designed to discourage this behaviour (e.g. the simple payment of a fine).

In the completely unrelated example of car safety, incentives also yielded unexpected results. The introduction of laws mandating the wearing of seat belts in the United States led to drivers driving less safely, a phenomenon known as the 'Peltzman effect'. The heightened sense of security engendered by a seat belt unexpectedly led to more risk taking and reckless driving on US roads.

Questions

1. **Define incentives.**
2. **Distinguish between extrinsic and intrinsic incentives and provide examples.**
3. **With reference to the experiment at childcare centres in Haifa, analyse why the introduction of a fine for tardiness failed to have the desired effect. In your answer, make reference to the role of a person's 'conscience'.**
4. **Explain why well-meaning laws such as the mandatory wearing of seat belts resulted in perverse outcomes.**

2.4 The traditional economic viewpoint of business in the economy: profit maximisation

The traditional economic viewpoint is based on the idea that self-interest is the motivating force that drives market economies. That is, consumers and businesses act purely for their own benefit. Consumers aim to maximise their utility, while businesses aim to maximise **profit**. Profit is the income earned by a business and is calculated by deducting costs of production (or expenses) from revenue (or sales). This income is then distributed to the business' owners or reinvested in the business.

The following extract from Adam Smith's economic treatise *The Wealth of Nations (1776)* neatly summarises the traditional economic viewpoint:

> ***'It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love (self-interest), and never talk to them of our necessities but of their advantages'.***

Adam Smith essentially claimed that markets have a remarkable ability to coordinate the actions of millions of self-interested consumers and businesses to achieve an efficient allocation of resources. In other words, when 'left alone' (known as **laissez faire**), markets tend to produce those goods and services that consumers value most, and which also happen to be the most profitable for businesses to produce.

Nobel Laureate Milton Friedman, in a now-classic article written for the New York Times Magazine in 1970, asserted:

> ***…there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rule of the game, which is to say, engages in open and free competition without deception or fraud. ('The Social Responsibility of Businesses Is to Increase Its Profits')***

Friedman was dismissive of the idea that businesses had obligations to anyone or anything beyond their shareholders. In his view, business decisions should be directed at maximising returns for shareholders and increasing shareholder wealth. In other words, the sole consideration of any business firm is profit.

The ideas of these economists are also expressed in the notion of **consumer sovereignty**, which describes how consumers determine what and how much is produced by casting 'dollar votes'. Businesses motivated by profit respond accordingly by producing those goods and services that consumers want. Further, as consumers' preferences change when new information becomes available businesses will naturally respond by reallocating resources to the production of those goods and services being demanded.

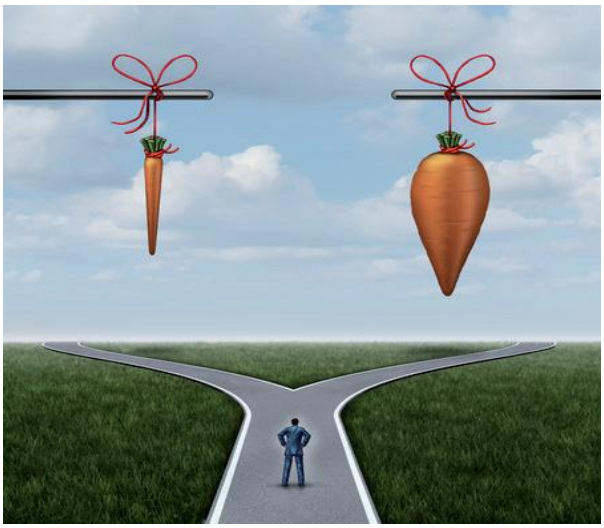
Apart from allocating resources in accordance with consumers' wishes, businesses also seek to improve their productivity to maximise their profits. As mentioned earlier, higher productivity can be achieved by increasing the quantity of output from a given quantity of inputs, or by maintaining current output levels but using a smaller quantity of inputs. Either way, higher productivity reduces a business's average costs of production, which increases their profit margins. Indeed, producing at the lowest possible cost is a major consideration for any businesses seeking to maximise profits.

Review Questions 2.4

1. Outline the traditional economic viewpoint of businesses in the economy.
2. Do you agree with this traditional economic viewpoint? Justify your position.
3. Explain how markets can serve the interests of both consumers and businesses.
4. Outline two ways that businesses can maximise profits.

2.5 The ways businesses might respond to incentives and disincentives, including taxes and tax rebates, subsidies and regulations

Businesses like consumers also respond to positive and negative incentives. The lure of higher profits is the ultimate incentive for businesses. For instance, an increase in consumer demand for a particular product will result in an increase in its price relative to other products. Accordingly, businesses will respond to this **price signal** by allocating more resources to the production of the product because of the better profit opportunities that now exist. Similarly, as the price of a product falls due to weaker consumer demand, businesses will allocate fewer resources to the product, as it is now less profitable to produce. In short, changes in relative prices result in changes to relative profitability, providing the incentive for businesses to reallocate resources to the production of those goods and services where the most lucrative profit opportunities exist.



The government can use incentives to affect a business's costs of production, profits and production decisions. For example, the government can provide **production subsidies** to businesses in order to reduce their costs of production and provide them with additional incentives to produce particular goods and services. A case-in-point is the subsidies provided to farmers during droughts to support them in maintaining their presence on the land. During such adverse weather events, the carrying capacity of the land is compromised by a lack of water, making it difficult to sustain livestock and grow crops. Production subsidies are therefore used by farmers to buy feed to keep livestock healthy and farms viable. In the absence of such incentives more farmers are likely to leave the land, which would have negative implications for food security and the Australian economy more generally.

Conversely, the government can also withdraw production subsidies, which can accelerate the demise of an industry. For example, the government decided to stop 'propping up' Australia's car manufacturing industry, which was one of many factors that contributed to the decision of Ford, GM Holden and Toyota to cease all car manufacturing operations at the end of 2017. These production subsidies were essentially a 'life line' to Australia's ailing car manufacturing industry struggling to compete and remain viable as a result of a number of factors. These included the high value of the Australian dollar (exchange rate), which made imported cars relatively cheaper, and the gradual removal of tariffs over time by the Australian government, which resulted in even lower prices for imported cars compared to locally-produced vehicles.

The removal of **tariffs** (taxes on imports) is also an example of how the government can use incentives to bring about change in business behaviour. Lowering tariffs is about promoting structural change to improve the economy's performance over the long run. Some commentators have equated tariff reform to Economic Darwinism or 'survival of the fittest' as the removal of tariffs lowers the price of imported goods, exposing Australia's import-competing industries to intense competition from foreign-made or imported goods. To remain viable, Australia's import-competing industries are forced to restructure their operations by implementing new technology and by adopting more efficient work practices, in order to raise productivity and lower costs of production. These cost savings can then be passed onto consumers in the form of lower prices, enhancing the international competitiveness of Australia's import-competing industries. So over time, Australia's import-competing industries should be able to compete with imported products without the need for protection from tariffs. [The economic role of tariffs, and their removal, is considered in more detail in Chapter 8.]

Inevitably, some industries won't be able to adapt to the new, highly competitive environment and thus will be forced to close down. Therefore, reductions in tariffs can also lead to a reallocation of resources to areas where Australia possesses a **comparative advantage**, such as minerals, beef, wine, education, tourism and biotech products. The theory of comparative advantage asserts that countries should allocate resources to those goods and services they can produce at a lower opportunity cost than their trading partners. It is only through specialising in the production of a narrower range of goods and services in which a country possesses a comparative advantage that it can maximise the total level of output from their resources. Any surplus can be exported and the income earned can be used to import those goods and services a country is relatively less efficient at producing.

Disincentives can be used to tackle the long-term challenge of climate change. The burning of fossil fuels such as coal for industrial production, releases CO_2 emissions into the atmosphere leading to global warming. It is future generations that bear the brunt of the costs connected to a warming planet. In 2012, to address these negative externalities and mitigate the effects of climate change, the government introduced a **carbon tax** of $23 per tonne of CO_2 emissions. This tax, which is an example of '**carbon pricing**', was levied on Australia's 500 biggest polluters. The carbon tax sought to

change the structure of relative prices by increasing the price of carbon-intensive production, such as energy generated from fossil fuels, relative to the price of less carbon intensive production, such as energy generated from renewable sources such as wind and solar power. Given the carbon tax was an additional cost of production for carbon intensive producers, it motivated them to take action to reduce their CO2 emissions in order to lower their production costs. In essence, the carbon tax served as a disincentive to release CO2 emissions. Furthermore, given that these additional costs were typically passed on to consumers, resulting in higher prices, consumers also had an incentive to switch to cheaper, low-emissions alternatives such as wind or solar energy. By altering the structure of relative prices, the carbon tax aimed to lower the level of CO2 emissions.

The government also pledged a proportion of the revenue generated from the carbon tax to support the development of green sources of energy. This financial support in the form of a **production subsidy** strengthens the business case for 'green energy' by lowering the costs of production and incentivising large-scale investment in renewables such as wind and solar. Further, by increasing the supply of 'green energy' this helps to drive down its cost and ultimately lowers the prices paid by consumers. For economic and political reasons, the carbon tax was repealed in 2014 and replaced with a **Direct Action Plan**, which focused more on the government supporting (via subsidies) those endeavours that had the potential to reduce emissions. Going forward, in line with Australia's commitment to reduce CO2 emissions by 43% by 2030, it is clear that state and federal governments will increasingly disincentivise CO2 emissions via carbon pricing in an attempt to further increase the relative price of 'dirty' forms of production, which reduces the relative price of 'clean' forms of production.

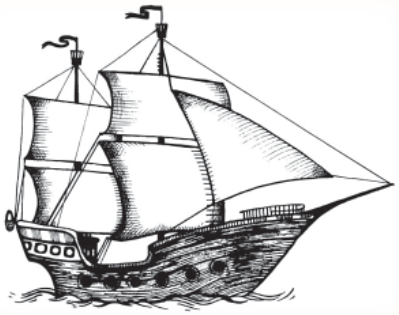
The government can provide **tax rebates** or **tax concessions** to businesses that undertake research and development (R&D) into new production methods and products. Currently, the Federal Government allows businesses to claim R&D expenses at a rate of 150% for tax purposes. This favourable tax treatment incentivises the development of new, more efficient production technologies, which have the potential to boost the international competitiveness of Australian businesses in an increasingly integrated and competitive global economy. Moreover, the development of new and desirable products can stimulate economic growth and job opportunities.

In response to the COVID-19 induced recession of 2020, the Federal Government introduced a **wage subsidy** known as **JobKeeper** to assist businesses significantly affected by the pandemic. To be eligible for the wage subsidy, businesses with an annual turnover (revenue) of less than $1 billion had to demonstrate that their turnover had declined by 30% or more. While businesses with an annual turnover of more than $1 billion had to show that their turnover had fallen by at least 50%. The JobKeeper Payment was a fortnightly payment paid at $1,500 per employee. This payment sought to partially cover businesses' wages costs, so more Australians could retain their jobs (stay 'on the books') and continue to 'earn' an income. In the absence of such an incentive businesses would have retrenched many more employees in order to stem their losses and remain financially viable. Consequently, the subsidy prevented the official unemployment rate from climbing to well above 10%. The JobKeeper Payment serves to illustrate how powerful incentives can be, and how they can be used to 'engineer' the right sorts of outcomes that serve the national interest.

In the section on consumers and incentives, the issue of moral hazard was introduced, where products such as insurance can create 'perverse incentives'. Moral hazard can also create 'perverse incentives' for businesses. For example, during the Global Financial Crisis there were rising concerns about the security of bank deposits. In response, many governments around the world, including the Australian Government, guaranteed bank deposits to reassure deposit holders and stop a potential 'run on the banks'. However, this guarantee could have encouraged some banks to take unnecessary risks with their customers' deposits, as they knew they had the backing of the government. That is, the government would come to their rescue or 'bail them out' if a bank made poor investment decisions that ultimately threatened both the value of deposits and, by extension, the viability of the banking system.

Application Exercise 2f: The Second Fleet and incentives

In 1790 the Second Fleet set sail from Portsmouth, England. However, unlike the First Fleet, this was a commercial operation as the British Government 'outsourced' the transportation of nearly 1000 convicts to shipping contractors Camden, Calvert & King, for a flat fee of 6 pennies for each convict that boarded their vessels for the fledging colony of New South Wales. Accordingly, they crammed their 'human cargo' onto the ships the Surprize, Neptune and Scarborough for the journey.



The five-month voyage around the Cape of Good Hope and across the vast Indian Ocean was notoriously harsh for the convicts. This was further compounded by decisions taken by the management at Camden, Calvert & King to keep costs down. The first of which was to recruit the crew from seedy dock-side taverns.

This crew of hard-drinking illiterates, were brutal in their treatment of the convicts, frequently administering vicious floggings with the cat-o'-nine-tails. The convicts also received starvation rations, so surplus food could be sold on arrival at Sydney Cove. They were also kept in squalid conditions below deck and in leg-irons for long periods of time. Further, scurvy, a disease caused by a lack of Vitamin C, ran rampant. Its symptoms included bleeding gums, loosening of teeth, the opening of previously healed wounds and general malaise. By the time the ships berthed at Sydney Cove the convicts were covered in lice, and about one-third of the convicts who had departed England had perished. Many of the survivors of what came to be known as the 'Death Fleet' were left in a terrible state, lean and emaciated, barely able to move and speak. An eye witness, the Reverend Johnson, wrote: "the misery I saw amongst them is indescribable…their heads, bodies, clothes, blankets, were all full of lice. They were wretched, naked, filthy, dirty, lousy, and many of them utterly unable to stand, to creep, or even to stir hand or foot." (Wikipedia, Second Fleet).

When news reached England of the calamity there was outrage. This prompted the British Government to change the payment mechanism for the transportation of the Third Fleet of convicts. Shipping contractors would now be paid on results, with approximately 20 per cent of the payment depending on the convict arriving in good health. Needless to say, the outcomes were vastly better. There was less overcrowding and far better treatment of the convicts. These improvements in conditions was ultimately reflected in a sharp drop in the death rate from 1 in 3 convicts to 1 in 11 convicts. The change to incentives – a theme central to the study of Economics - led to a change in the way Camden, Calvert & King treated their 'human cargo'.

The improvements between the Second Fleet and Third Fleet also highlights another major theme in Economics: trade-offs. This is where an economic agent chooses a course of action and, in the process, sacrifices something of value. For example, when Camden, Calvert & King were paid by the number of convicts that set sail from England they chose to pack as many convicts as they could aboard the ships. The trade-off was a higher death rate, much to the dismay of the British Government and public. However, once they had a strong financial incentive to get their 'human cargo' to Sydney Cove alive and in a good state of health they opted for a different trade-off: fewer convicts per ship, more rations per convict and better treatment during the voyage.

Questions

1. Compare the outcome of the voyage of the Second Fleet with the Third Fleet.
2. Describe some of the decisions Camden, Calvert & King made to maximise their profits when transporting convicts as part of the Second Fleet.
3. Compare the incentive schemes used for the transportation of convicts for the Second and Third Fleets.
4. Explain why the incentive scheme used for the Third Fleet resulted in vastly improved outcomes.
5. Define trade-offs.
6. Compare how the trade-offs changed when the incentive scheme used for the transportation of convicts changed.
7. "At its root, economics is the study of incentives". Discuss.

Review Questions 2.5

1. Distinguish between a tax rebate and a subsidy, and provide an example of each.
2. With reference to an example, explain how the provision of production subsidies can support businesses through difficult periods.
3. With reference to an example, explain how the withdrawal of production subsidies can affect the ongoing viability of an industry.
4. Explain the intention behind the government's decision to remove tariffs on imported cars.
5. With reference to the recent past, explain how the government combined incentives and disincentives to tackle the long-term challenge of climate change.
6. Explain how the government used subsidies during the COVID-19 induced recession of 2020 to prevent a significant increase in unemployment.
7. Explain how the government's guarantee on bank deposits during the Global Financial Crisis had the potential to create a moral hazard.

2.6 The traditional economic viewpoint of the government in the economy: maximisation of living standards

The traditional role of the government in the economy is to maximise both dimensions of living standards; that is, **material living standards** and **non-material living standards**. Improving material living standards is essentially about increasing people's access to goods and services as measured by real GDP per capita. With respect to non-material living standards, this involves enhancing people's 'quality of life' by achieving the following types of outcomes:

- reducing traffic congestion
- improving air quality
- raising literacy and numeracy
- increasing life expectancy
- cleaning up waterways
- lifting general levels of happiness
- lowering crime rates.

It should be noted that the factors listed above are by no means an exhaustive list of the ways that people's 'quality of life' can be enhanced.

To improve society's living standards, the government will use various economic policies to pursue its macroeconomic goals. This includes promoting sustainable economic growth and employment opportunities, while keeping inflation to a minimum. Achieving economic growth improves people's access to goods and services, and generates both employment and income, which provides a sense of happiness and satisfaction. Growing the economy in a sustainable manner (i.e. strong and sustainable economic growth) also enables future generations to enjoy comparable living standards. For example, keeping inflation low preserves people's purchasing power and protects the value of their savings, while helping to make Australia's tradables sector internationally competitive. In addition, achieving economic growth without creating excessive environmental damage preserves resources for use by future generations of businesses and consumers. The government also seeks to improve society's living standards by promoting an efficient allocation of resources and an equitable distribution of income.

The next section deals with the government's role in maximising society's living standards in more detail.

Review Questions 2.6

1. Distinguish between material and non-material living standards.
2. Explain how material and non-material living standards are measured.
3. Outline how the pursuit of sustainable economic growth and job creation, along with the maintenance of low inflation contribute to higher living standards.

2.7 The role of government in economic stabilisation, improving efficiency in resource allocation and redistribution of income to improve living standards

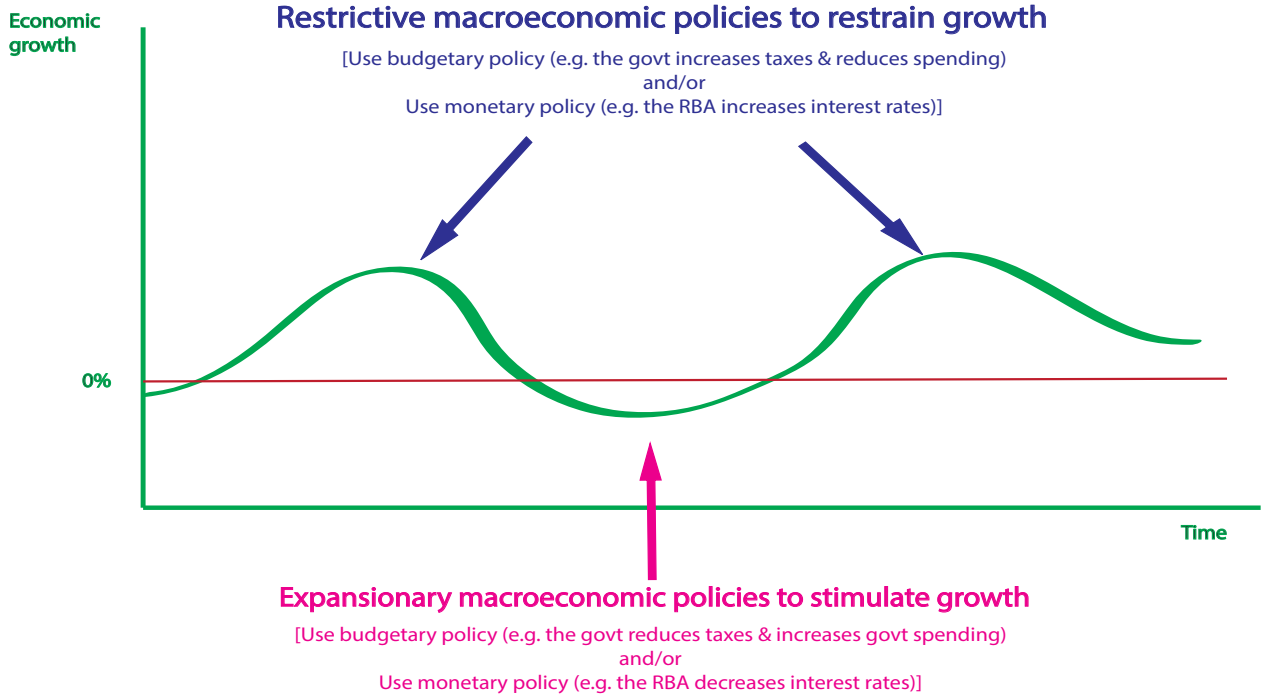
Economic stabilisation

A feature of market capitalist economies such as the Australian economy is the **business cycle**, which refers to the cyclical movement of economic activity over time, with periods of above average rates of economic growth and periods of negative or low rates of economic growth as measured by Real GDP. The business cycle consists of different phases including expansions (upswings, upturns), peaks (possibly booms), contractions (downswings, downturns) and troughs (possibly recessions).

In the short to medium-term the main determinant of the business cycle is the level of aggregate demand or total expenditure on final goods and services produced within Australia's borders. Thus, any changes in aggregate demand will be reflected in the different phases of the business cycle, such as expansions, peaks, contractions and troughs. Further, without any government intervention, the wave-like or cyclical pattern of economic activity would be more volatile. That is, the economy would be more likely to experience protracted periods of declining (or negative) rates of economic growth and higher rates of unemployment, as well as long and destabilising inflationary booms. Therefore, there is a compelling case for government intervention in the economy to stabilise the business cycle.

The Federal (or Commonwealth) Government and the Reserve Bank of Australia (RBA) play a major role in the **economic stabilisation** by implementing **aggregate demand policies** such as budgetary policy and monetary policy to stabilise the business cycle. The use of budgetary policy to stabilise the cycle involves the Federal Government altering the level and composition of government revenues and expenditure to stimulate or dampen aggregate demand to smooth out fluctuations in the business cycle. Monetary policy relates to the RBA altering the cash (interest) rate, and at times resorting to unconventional monetary policy tools (such as during the 'Covid recession of 2020'), to stimulate or restrain aggregate demand to stabilise the business cycle. Figure 2.1 below highlights how budgetary and monetary policies can be used in a counter-cyclical manner to achieve economic stabilisation.

Figure 2.1 Economic stabilisation policies



The stabilisation of the business cycle is critical to achieving three important macroeconomic goals pursued by the Federal Government with the support of the RBA. These goals are:

Strong and sustainable economic growth involves achieving the highest rate of economic growth possible, consistent with strong employment growth, but without jeopardising low and stable inflation and intertemporal efficiency, as well as avoiding unacceptable external pressures, such as a build-up of 'bad' or unproductive foreign debt. The rate of growth in real GDP per annum that is considered both strong and sustainable is 3 - 3.5 per cent per year.

Full employment entails achieving the maximum growth in employment and the lowest level of unemployment possible without jeopardising low and stable inflation. This is often expressed in terms of the NAIRU or the non-accelerating inflation rate of unemployment. In the current context this is thought to be an unemployment rate of approximately 4.25%.

Low and stable inflation (also referred to as **price stability**) involves keeping increases in the general price level (as measured by growth in the Consumer Price Index) to between 2 and 3 per cent, on average, over time. This is the medium-term operational objective monetary policy, which has the endorsement of the Federal Government.

When these three macroeconomic goals are achieved simultaneously, **domestic economic stability** is attained. Indeed, the simultaneous achievement of these three macroeconomic goals will raise society's **living standards** in both material and non-material terms.

The macroeconomic goals are also supported by the use of **aggregate supply policies** that operate over a longer time frame. These policies seek to improve the willingness and ability of businesses to supply goods and services, increasing the total volume of goods and services available for sale in the economy and boosting the economy's capacity to supply (i.e. productive capacity).

Aggregate supply policies refer to any government policy action that is designed to reduce the costs of production and/or improve supply conditions for business firms. Such policies increase the economy's potential level of output by making aggregate supply conditions more favourable and ultimately expand the 'speed' at which the economy can grow, over the long term. These policies will typically include those government initiatives that seek to improve the quality and/or quantity of the nation's productive resources, such as physical capital (e.g machinery and infrastructure) and human capital (i.e. labour). Examples of these policies include government initiatives that are designed to improve education and training in order to raise labour productivity; subsidising childcare to increase labour force participation; tax concessions for research and development expenditure; and removing outdated or cumbersome business regulations that will help to incentivise business activity.

Efficiency in resource allocation

The Federal Government also strives to promote an **efficient allocation of resources,** which entails all of the nation's resources being used in the production of goods and services in such a way that national welfare or living standards is maximised. This then implies that any change in the way resources are allocated from this point will result in a deterioration of national living standards. What is, or isn't, considered to be the most efficient allocation of resources for any particular nation largely depends on the values it places on various goods and services. For example, a nation that is highly materialistic is likely to value the highest possible production levels, regardless of the impact on the environment. Compared to another country that is more environmentally conscious, it will therefore tend to produce more carbon intensive forms of energy (creating greater levels of CO2 emissions) relative to more environmentally friendly energy production (such as solar or wind energy).

Achieving the most efficient allocation of resources will typically imply that the economy has achieved 'efficiency' in all its possible forms. This includes allocative efficiency, productive efficiency, dynamic efficiency and intertemporal efficiency. Given the basic economic problem of relative scarcity it is no wonder that societies and economists are concerned with the efficient use of the economy's limited resources. [Allocative and productive efficiency were considered in Chapter 1, but it is worth returning to these ideas along with two further types of efficiency as we consider the role of the government in promoting efficiency in the economy.]

Allocative efficiency

Allocative efficiency occurs when resources are used to produce those goods and services that best satisfy society's needs and wants. This means that the goods and services that provide people with the highest level of utility will be produced in the most efficient way. Goods and services will be made in the right quantities and will go to those people who value them the most. When allocative efficiency occurs, no resources will be wasted, and it will be impossible to make someone better off without making someone else worse off. From a production point of view, the cost of producing a given output is minimised (or output from a given quantity of inputs is maximised) and from a consumption point of view, the goods and services produced by society will provide the highest level of 'collective' satisfaction. This type of efficiency is often defined in the same way as 'an efficient allocation of resources' described earlier, but can also have a more specific meaning that is beyond the scope of this text (See Study Tip).

Study tip

In a first year microeconomics course, allocative efficiency has a much more specific meaning and is commonly described as the situation where production of goods and services occurs at a point where the marginal benefits of consumption equate to the marginal costs. An increase in production beyond this point is too high because it results in marginal costs exceeding marginal benefits and any production below this point is too low (and sub-optimal) because society would benefit from higher production levels.

Study tip

The Austrian economist, Friedrich Hayek argued that markets were the most efficient mechanism for allocating resources because they represented the individual decisions of millions of consumers and thousands of producers—the wisdom of crowds, if you like. Bureaucrats and politicians would never have enough information to allocate resources as efficiently. Hayek was essentially making the point that market capitalist economies are superior to planned socialist economies in allocating resources and maximising living standards.

It is this inherent ability of market capitalist economies to generally allocate resources efficiently, in an allocative sense that delivers the high living standards that has made market capitalism the most successful and dominant economic system worldwide.

Productive efficiency

Productive efficiency is also referred to as **technical efficiency** and entails maximising the output of goods and services from all available resources or factors of production. This implies that goods and services are being produced at the lowest possible cost. Productive efficiency could therefore be improved if workers and/or machinery are able to produce more goods or services per hour worked (an increase in labour productivity) or per machine hour used (an increase in capital productivity).

Dynamic efficiency

Dynamic efficiency is the speed at which resources are reallocated from one area of production to another. High levels of dynamic efficiency implies that resources are highly mobile and easily interchangeable and businesses are adaptive and creative in response to changing economic circumstances. This may involve developing and using new technologies and/or being innovative with product offerings to be able to better meet the changing tastes of consumers. For example, during COVID-19, manufacturers of alcohol and cleaning products quickly adapted their production processes, reallocating their resources (e.g. labour and capital) to the production of hand sanitisers that were in short supply during the early stages of the pandemic.

Allocative, productive and dynamic efficiency are generally conditional on markets being competitive with no or low barriers to entry to markets, and the absence of powerful businesses with the ability to exercise **market power,** restricting output and raising prices to the detriment of consumers (technically referred to as firms abusing market power and eroding consumer surpluses). To illustrate, If there are high barriers to entry to markets (e.g. large set up costs as in mining or the requirement for government licenses as in banking), the incumbent businesses would not face the threat of new competitors entering the market in response to better profit opportunities. This would enable the incumbents to earn **abnormal profits** (or **supernormal profits**) in perpetuity. Such profits are above what is considered necessary to warrant ongoing participation in the market. Similarly, businesses would not face the necessary competitive pressures to use their resources as efficiently. For example, businesses will be under less pressure to extract as much output as possible from their inputs in an effort to reduce costs/prices in order to win over customers from rival businesses. Further, if there were only a small number of large businesses in a market (as opposed to numerous small businesses each with only a tiny fraction of total sales), they would be tempted to collude to restrict output, which raises prices and generates supernormal profits.

Given the detrimental impact of uncompetitive markets on allocative, productive and dynamic efficiency, the government seeks to promote competition through laws such as the Competition and Consumer Act (2010), which prohibits anti-competitive behaviour and is enforced by the Australian Competition and Consumer Commission (ACCC). This is explored in detail in Chapter 4.

Inter-temporal efficiency

Inter-temporal efficiency is achieved when resources are appropriately allocated between current consumption and future consumption. An idea that is closely connected to inter-temporal efficiency is sustainable development. According to the Brundtland Report:

> ***"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs".***

Study tip

The environmental economist Herman E. Daly famously said "the economy is a wholly owned subsidiary of the environment, not the reverse". This quote highlights that long-term prosperity is intrinsically tied to the good stewardship of the natural environment.

Therefore, the over-consumption of resources by current generations will jeopardise the living standards of future generations, and ultimately compromise inter-temporal efficiency.

However, even competitive markets can result in an inefficient allocation of resources. This situation is referred to as **market failure**, which occurs when the pursuit of self-interest by market participants such as consumers and businesses leads to an allocation of resources that does not maximise societal welfare and living standards. This is because self-interested consumers and businesses are primarily concerned with utility and profit maximisation respectively, rather than overall societal welfare. Types of market failure include public goods, externalities (as previously discussed in the section on incentives), asymmetric information and common access resources. In such instances, government intervention in specific markets is justified to address market failure.

Study tip

Market failures such as public goods, externalities, asymmetric information and common access resources are studied in detail in Unit 3.

A case-in-point are common access resources (CAR) such as air, forests and fish. CAR possess two characteristics that lead to market failure. Firstly, CAR are subject to rivalry in consumption, which means that one person's consumption reduces the amount of the resource that is available for someone else. Secondly, CAR are non-excludable, which means that anyone can utilise them without paying for them. Therefore, there tends to be an overconsumption of CAR because of the lack of excludability and the absence of prices. Thus, it stands to reason that economic agents acting in their self-interest will seek to exploit CAR before they run out, which perversely accelerates the depletion of these resources for everyone. For example, the overconsumption of fish by current generations reduces the stock of fish available to future generations jeopardising inter-temporal efficiency. With future generations less able to satisfy their needs and wants, their living standards will be diminished.

A possible government intervention in the case of CAR is the use of regulations such as issuing fishing licences, imposing fishing quotas and size restrictions on the fish that can be caught, and policing this through the Coast Guard/Water Police. These interventions should curb the overconsumption of fish, and promote the sustainable harvesting of fish stocks. Ultimately, this supports the attainment of inter-temporal efficiency by providing this CAR for both current and future generations, effectively maintaining living standards over time. [Inter-temporal efficiency, market failure and government interventions are considered in more detail in the topic of Environmental economics in Chapter 9.]

Redistribution of income

The government will also aim to promote a more **equitable distribution of income.** The nature of market capitalist economies is such that they reward effort, personal betterment, risk taking, innovation, entrepreneurship and plain old greed. These attributes inevitably result in inequality in the distribution of income (and wealth). Given inequality is an inherent feature of market capitalist economies, governments seek to redistribute incomes in a fair but not equal manner, to ensure that all members of society can enjoy a dignified standard of living, and avoid absolute poverty. This is seen as a hallmark of a civil and affluent society, and necessary for maintaining social cohesion.

To promote an equitable distribution of incomes the government maintains a progressive personal income tax system and provides means-tested transfer payments to financially support the most disadvantaged members of society. It also seeks to provide equality of opportunity through free and compulsory education, and schemes that provide people from certain backgrounds with better access to university to pursue higher education. An equitable distribution of income will be explored extensively in Chapter 10.

Review Questions 2.7

1. Describe the business cycle, and identify the main determinant of the business cycle in the short to medium-term.
2. Describe why government intervention to stabilise the business cycle is warranted.
3. Briefly outline how budgetary policy and monetary policy can be used to stabilise the business cycle.
4. Explain the three macroeconomic goals pursued by the government, and outline how they contribute to higher living standards.
5. Explain the difference between aggregate demand policies and aggregate supply policies.
6. Provide some examples of aggregate supply policies.
7. Describe an efficient allocation of resources.
8. Define allocative efficiency, and the role of markets and capitalist ownership in promoting allocative efficiency.
9. Define productive efficiency and its relationship to allocative efficiency.
10. Define dynamic efficiency and its relationship to allocative efficiency.
11. Analyse why uncompetitive markets can be detrimental to the achievement of allocative, productive and dynamic efficiency.
12. Briefly outline the role of the Australian Competition and Consumer Commission (ACCC).
13. Define intertemporal efficiency and its connection to sustainable development.
14. Explain why free (unregulated) and competitive markets can result in market failure.
15. Describe the market failure of common access resources, and how the government can intervene to correct this type of market failure.
16. Outline the notion of an equitable distribution of income, and describe why inequality in the distribution of income is a characteristic of market capitalist economies.
17. Identify two ways that the government can promote a more equitable distribution of income.

2.8 Multiple choice review questions

1. Which of the following would be considered a negative externality?

a) Cigarette smoke inhaled by non-smokers in public spaces
b) The Formula 1 Grand Prix in Melbourne promoting the city of Melbourne to international tourists
c) Beautifying your home and the benefits this provides to your neighbours, both aesthetically and in terms of their property values
d) The research and development done by the defence industry and its dissemination to other industries

2. Which of the following combinations are not considered to be positive externalities?

i. Abnormally high property prices enjoyed by homeowners located in the immediate vicinity of zoned, top performing public schools
ii. The overall decline in car theft as a result of some car owners installing concealed anti-theft devices in their cars
iii. The Formula 1 Grand Prix in Melbourne and the disruption it causes to local traffic
iv. Loud music from a raucous party disturbing the neighbours' sleep

a) Statements i & ii.
b) Statements i & iv.
c) Statements ii & iii
d) Statements iii & iv

3. Which of the following government policies is most likely to address a negative externality?

a) Reduction in excise tax on petrol
b) Abolition of national park entry fees
c) Lowering rebates on the installation of solar panels
d) Increasing fees on metered car parking spaces in the city

4. Which of the following combination has the most potential to create a moral hazard?

i. The decision by the Australian Government to guarantee bank deposits in the event of another Financial Crisis
ii. Third party car insurance, which only covers the cost of repairs to the motor vehicle of the party who was not at fault
iii. Comprehensive car insurance, which covers the cost of repairing the motor vehicles of both parties involved in a motor vehicle accident irrespective of who is at fault
iv. The installation of video surveillance cameras in the workplace

a) Statements i & ii.
b) Statements i & iii.
c) Statements ii & iii
d) Statements iii & iv

5. Which of the following does not represent an increase in productivity?

a) Output remains unchanged but fewer inputs are used up in production
b) Output increases but the same amount of inputs are used in production
c) Output remains the same but more inputs are used up in production
d) Output increases but fewer inputs are used up in production

6. When compared with country B, people in country A are twice as productive at producing cars and three times as productive at producing computer software. According to the theory of comparative advantage

a) country A will not buy either cars or computer software from country B
b) country A will buy cars from country B and sell computer software to country B
c) country A will buy both cars and computer software from country B
d) country A will buy computer software from country B

7. Which of the following is not an example of a government action to reduce a negative externality?

a) Legislation to ensure that petrol has lower levels of harmful substances like lead
b) The granting of a licence to Adani Mining Company to open coal mines in central Queensland
c) Requiring commercial fishing companies to limit their catch so as to encourage sustainable fish stocks in Port Phillip Bay
d) Providing tax incentives to companies who invest in research and development so as to make their products more sustainable

8. Which of the following is not considered an example of an aggregate supply policy initiative designed to increase productive capacity?
a) Lower interest rates
b) An increase in childcare subsidies
c) More spending on education and training
d) Reducing the regulatory burden on businesses

9. Which of the following is not an element of domestic economic stability?
a) Full employment
b) Low and stable inflation
c) An efficient allocation of resources
d) Strong and sustainable economic growth

10. Which of the following is not considered an aggregate supply policy?
a) The provision of more generous childcare subsidies
b) Increased spending on training and education
c) Deregulation.
d) The Reserve Bank increasing the cash (interest) rate.

11. With reference to the traditional economic viewpoint, which of the following assumptions is incorrect?
a) Consumers aim to maximise utility subject to a budget constraint
b) Consumers seek to derive the most satisfaction from the income at their disposal by buying those goods and services that reflect their preferences
c) Consumers act in the interests of others
d) Consumers make rational choices

12. Diminishing marginal utility generally means that
a) greater consumption of a good or services always yields more utility
b) each additional unit of a good or service consumed is a little less satisfying
c) the opportunity cost of extra consumption is always lower
d) products that are scarce will have a higher price

13. Which of the following is classified as a direct tax?
a) Goods and services tax
b) Personal income tax
c) Excise tax
d) Tariffs

14. What name is given to the type of efficiency where resources are quickly reallocated to meet the changing tastes and needs of consumers?
a) dynamic efficiency
b) allocative efficiency
c) productive efficiency
d) intertemporal efficiency

15. Which statement regarding the use of aggregate demand policies is not correct?
a) Monetary policy will be tightened (higher interest rates) during the boom phase of the business cycle
b) Budgetary policy will become more contractionary during an economic downturn
c) Government spending is likely to fall relative to government revenue when the unemployment rate falls to very low levels
d) Monetary policy and budgetary policy will often be used in tandem to manage the business cycle

16. Non-material living standards are most likely to increase when
a) average incomes increase, thus improving access to goods and services
b) there are higher levels of production
c) people experience less leisure time
d) there is less congestion on roads

17. Which of the following is not considered to be an indicator of non-material living standards?
a) air quality
b) literacy and numeracy rates
c) general levels of happiness
d) Real GDP per capita

18. Which type of efficiency is least likely to be related to the goal of achieving a strong rate of economic growth?
a) Allocative
b) Productive
c) Inter-temporal
d) Dynamic

19. Which of the following would be classified as a disincentive?
a) A production subsidy
b) A tax rebate
c) An advertising campaign
d) An indirect tax

20. Which of the following initiatives is unlikely to reduce carbon pollution?
a) Subsidies to 'dirty' producers who agree to reduce emissions
b) The re-implementation of a carbon tax
c) Subsidies to 'clean' producers for further investment into renewable energy
d) A decrease in the research and development tax concessions available to businesses

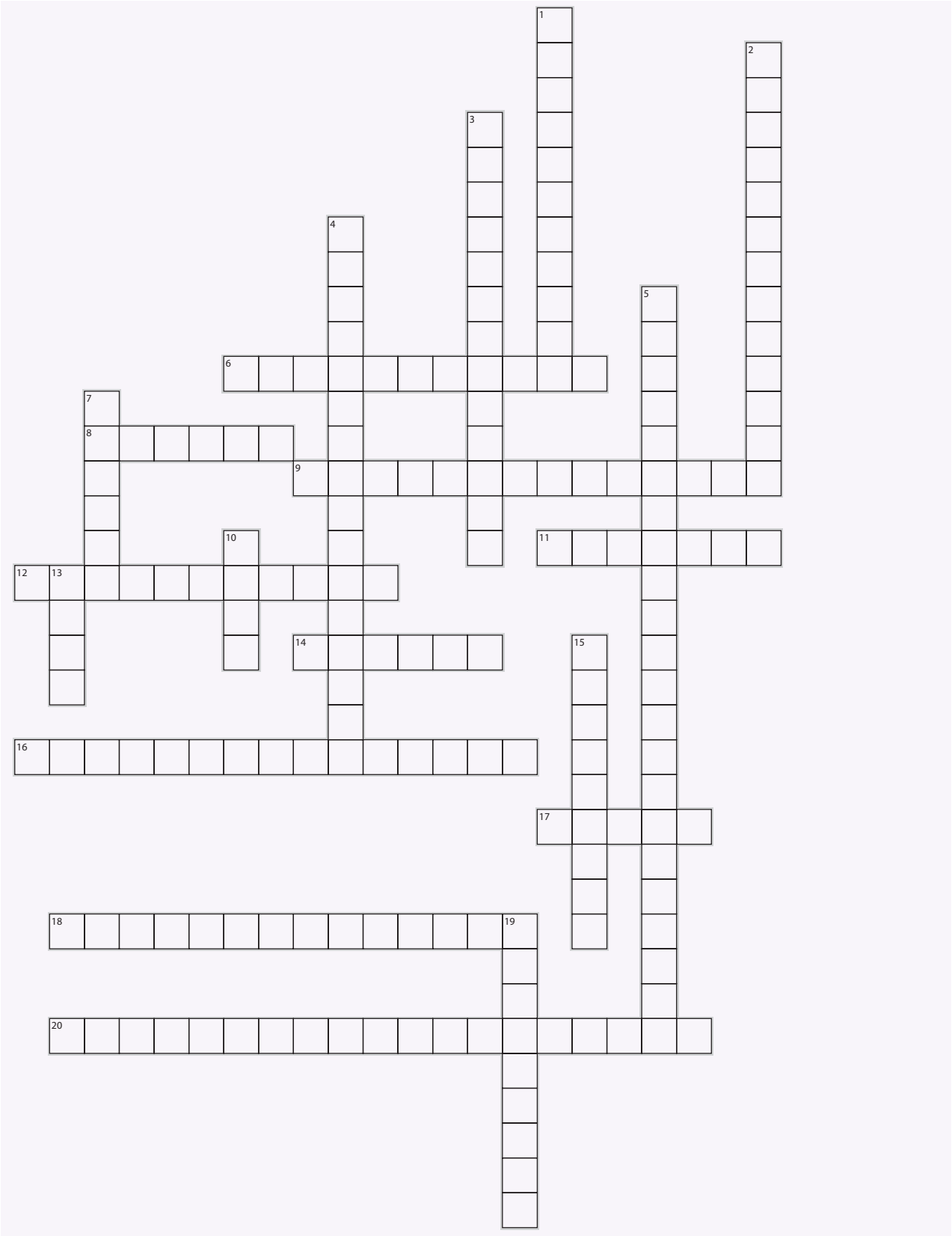
2.9 Chapter crossword puzzle

Across

6. The JobKeeper scheme implemented during the COVID-19 induced recession of 2020 is an example of this (two words)
8. A common form of incentive used by the government, where part of the original payment for a good or service is returned to the buyer
9. A Latin term meaning 'rational economic man' (two words)
11. A type of efficiency that involves resources moving swiftly from one activity to another
12. Where consumers act with considered self-interest
14. A tax on an import
16. The satisfaction that consumers gain from consuming an additional unit of a good or service (two words)
17. A measure of satisfaction, happiness or well-being
18. Consumers, businesses and governments are classified in this way (two words)
20. A principle that states that in market capitalist economies, consumers determine how resources are allocated by casting 'dollar votes' (two words)

Down

1. A situation where an economic agent has an incentive to increase their exposure to risk because it does not bear the full costs of that risk
2. The main variable that is manipulated when monetary policy is changed (two words)
3. The wave-like movement of economic activity over time, as measured by Real GDP (two words)
4. The fixed amount of income consumers have at their disposal to spend (two words)
5. A concept closely related to intertemporal efficiency (two words)
7. The difference between sales revenue and the costs of production
10. Another term for 'equitable' in the context of government efforts to achieve an equitable distribution of income
13. A statutory authority involved in policing competition laws
15. Something that induces an economic agent, whether a consumer or business, to act
19. An action taken by an uninformed party to induce an informed party to reveal information


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

2.10 Chapter summary

1. Economic agents are individuals and organisations that participate in the economy, and make economic decisions.
2. Examples of economic agents include consumers or households, businesses, social enterprises and not-for-profit organisations, such as charities, and special interest groups such as trade unions, and the government and statutory authorities.
3. The private sector relates to private ownership and control of resources, and the economic decisions made by the owners of these resources.
4. The public sector relates to government ownership and control of resources, and the economic decisions made by the government and its agencies.
5. Most economic activity in Australia takes place in the private sector as the Australian economy is a market capitalist economy.
6. The traditional economic viewpoint of consumer behaviour is based on the idea of Homo economicus or 'rational economic man'.
7. Homo economicus strives to maximise their utility (or satisfaction) based on a rational and informed assessment of the cost and benefits, and given their budget constraint.
8. Consumers experience diminishing marginal utility from the consumption of goods and services and, therefore over a period of time will 'mix it up' by consuming different combinations of goods and services in order to maximise their total utility.
9. Consumers respond to incentives and disincentives such as taxes, tax rebates, subsidies and regulations.
10. Governments employ incentives to encourage the consumption of those goods and services that generate positive externalities or confer benefits on third parties or bystanders, such as vaccinations. This can be achieved through the use of subsidies or through direct provision free of charge.
11. Conversely, governments aim to discourage the consumption of those goods and services that generate negative externalities or impose costs on third parties or bystanders, such as second-hand cigarette smoke. This can be achieved through the use of taxes or laws prohibiting consumption.
12. Certain products such as insurance can create 'perverse incentives' because of the problem of moral hazard. This is where the insured party is more likely to act irresponsibly or recklessly, as they know they are insured against any loss.
13. Incentives such as childcare subsidies, lower income taxes and less generous welfare payments can be used to encourage more people to participate in the labour force.
14. Monetary incentives such as pay rises linked to productivity improvements and non-monetary incentives such as the recognition of employees' achievements can be used to boost workplace productivity.
15. The traditional economic viewpoint of business behaviour is based on the idea of profit maximisation. That is, businesses seek to maximise their profits by producing those goods and services that consumers value most and by producing them at the lowest possible cost.
16. Businesses, like consumers and workers, respond to incentives, such as taxes, tax rebates, production subsidies, tariff reform and wage subsidies.
17. The Federal Government and statutory authorities such as the Reserve Bank of Australia, and the Australian Competition and Consumer Commission pursue the macroeconomic goals of strong and sustainable economic growth, full employment, low and stable inflation, an efficient allocation of resources and an equitable distribution of income in order to maximise society's living standards.
18. Economic stabilisation involves the use of budgetary policy and monetary policy to stabilise the fluctuations in the business cycle.
19. An efficient allocation of resources entails all of the nation's resources being used in the production of goods and services in such a way that national welfare or living standards is maximised.
20. Productive efficiency is also referred to as technical efficiency and entails maximising the output of goods and services from all available resources or factors of production.
21. Dynamic efficiency is the speed at which resources are reallocated from one area of production to another.
22. Inter-temporal efficiency is achieved when resources are appropriately allocated between current consumption and future consumption.
23. To achieve its macroeconomic goals the Federal Government and its statutory authorities use various economic policies such budgetary policy, monetary policy, aggregate supply policies and competition policy to maximise living standards.

Chapter 3
Decision-making in markets

3.1 What is a market?

Any time goods or services are bought and sold it represents activity that has taken place in a market. A **market** is a place or situation where buyers and sellers of goods or services come together in exchange, namely to exchange a good or a service. In a market, the rate of exchange is the **price** of the good or service that is being sold. For a market to develop, there must be both a willingness to purchase a product (i.e. a **demand** for the product) and a willingness to produce or supply a product (i.e. a **supply** of the product).

Study tip

As high school students, you are likely to be most familiar with being a buyer and you will probably agree that, as a buyer, you would prefer a lower price. If, however, you also have a part-time job, you will probably agree that, as a 'seller' (of your own labour) you would prefer a higher price.

All buyers and sellers will have some idea about the 'value' they place on a product, however the **exchange** will only take place in a market if 'the price is right'. This means that the price must be at a level where both the buyer and seller believe that the exchange makes them better off. This usually involves a compromise along the way because the seller wants to receive the highest price possible and the buyer wants to pay the lowest price. As the selling price falls, the buyer is relatively better off and the seller relatively worse off. Similarly, as the selling price increases, the buyer is relatively worse off and the seller relatively better off. Who gains more from the market transaction will depend upon a number of factors that will be explored shortly. The bottom line is that exchange will not occur (and therefore there will be no market activity) if one of the parties to any possible transaction believes that they will be made worse off by either buying or selling the product.

Some products in markets might be on sale for a substantial period of time without a buyer being prepared to pay the asking price. This will usually occur because the sale price is too high. At this price, potential buyers do not believe they will be better off because the value they place on the product is below the asking price. Accordingly, the exchange will only occur if the seller reduces the price. This situation occurs most frequently in property markets, where houses can be on sale for many months, with the vendors (sellers) and prospective buyers unwilling to compromise.

Study tip

In economics, the term 'products' is often used to describe either a good (a physical, or tangible, product like food or a car) or a service (an intangible product like a bus ride or financial advice).

When the residential property market is 'flat' or declining, houses will not be selling as quickly, demonstrated by 'For Sale' signs remaining without a 'SOLD' sticker for several months. When this happens, the vendors (i.e. the sellers) are forced to reduce their expectations and lower their asking price. This highlights the fact that in a 'flat' market it is the seller who is forced to do more of the compromising. It is useful to contrast this with a property market boom, where houses are selling quickly and buyers are forced to do more of the compromising (that is, pay a higher price than they would have liked) in order to purchase a property.

Typically, a market will occur in a physical place where those who demand products (buyers) and those who supply the products (sellers) gather to exchange goods or services at a price. For example, the Queen Victoria, South Melbourne and Prahran markets attract sellers who offer their goods for sale and potential buyers physically go to these markets in order to purchase the products for sale. Similarly, with property markets, many sales will take place at the property's location, particularly if the property is auctioned.

There are, however, other markets that do not involve a physical meeting place for buyers and sellers. Instead they rely on communications technology to bring the buyers and sellers together. Amazon, eBay and other online sites act just like the Victoria, Prahran or South Melbourne markets, providing the means for buyers and sellers of products to come together in exchange but without ever meeting up in person. Similarly, the stock market brings buyers and sellers of shares together in exchange, but there is no physical meeting between the buyer and seller, and the trade usually takes place online.

Anything that has been sold in the economy must have been sold in a market of some sort. There are literally hundreds of different types of markets, such as property markets, labour markets, financial markets, share markets, export markets, currency markets, commodity markets, bond markets, black markets etc. It is also possible for the sale of one product to be considered a transaction that has taken place in more than one market. For example, if a farmers sells one hundred thousand head of cattle to Indonesia, this can be considered activity that has taken place in the 'cattle' market, the 'agricultural' market, the 'commodity' market or even the 'export' market.

Review questions 3.1

1. Define the terms **market** and **product.**
2. Outline when exchange will take place in a market.
3. Discuss why houses in property markets can remain unsold for many months.
4. With respect to buyers and sellers in property markets, discuss which group compromises more during a booming market and who compromises more during a flat or declining market.
5. Provide examples of markets requiring the physical presence of buyers and sellers and list some of the products sold in these markets.
6. Provide examples of markets that do not require the physical presence of buyers and sellers and list some of the products sold in these markets.
7. Compile a list of five separate markets and describe the products being sold in these markets.

Teachers can download the 'Crossword trading game' from the teachers resources section of ***www.ecogroundup.com.au*** It provides a fun way of introducing markets to the class.

Application exercise 3a

1. Compile a list of the five most recent purchases you made and identify the markets in which these transactions occurred.
2. In the table below, match the situation or market characteristic in the right hand column with the type of market in the left hand column:

Market type	Situation or characteristic
1. Financial market	Where unprocessed or primary products are sold, such as wheat, wool or minerals
2. Stockmarket	John Hawkes gets a job at a supermarket part-time while completing his VCE
3. Property market	Ingrid purchases some US dollars for a planned trip to the USA
4. Commodity markets	Aisha invests $1m in Flight Centre shares, therefore becoming a part owner in the company
5. Currency market	Where companies and governments borrow money from investors or lenders
6. Labour market	Jenny receives a loan or credit card from a bank
7. Livestock market	Justin Kay sells a stolen bicycle to Lenny Carlton
8. Black market	Lisa Snookes attends school every day
9. Education market	Simone Allan purchases a house in Caulfield
10. Bond market	Tran, a farmer, sells cattle and sheep to abattoirs

Application Exercise 3b: Black markets

A black market occurs whenever the sale of illegal goods or services takes place or when market transactions occur which are not reported for tax purposes. This is sometimes referred to as activity taking place within the 'black economy' or the 'shadow economy'. For example, the sale of illicit drugs and semi-automatic weapons will typically occur in the black market. Similarly, the second hand sale of AFL Grand Final tickets is illegal and occurs in the black market - a practice often referred to as 'scalping'. Black market activity will also occur when employers pay employees 'off the books' and in cash, or when products are sold on a 'cash basis' to avoid tax obligations of the buyer and/or seller. For example, a tradesperson who offers to fix a leaking tap or repair a broken window for cash may be seeking to avoid his or her obligation to pay income tax to the federal government. By not having a record of the transaction such as a cheque or credit card payment through their bank account, they won't need to report the income to the Australian Tax Office. The customer might be tempted to say yes to this cash transaction because they will receive the product (or service) at a lower price, particularly given that they can also avoid paying tax, in the form of the GST. Another example of black market activity relates to the downloading or use of copyright material without a licence. This includes the download of movies, books and music without paying a price, which deprives the copyright owners (those who created or own the material) of receiving the full return on the benefits they provide to users of their material. Overall, black market activity is costly because it undermines trust in the tax system, creates an unfair commercial environment that penalises businesses and individuals doing the right thing, facilitates the exploitation of workers and fosters abuse of the welfare system. The government's 'Black Economy Taskforce' estimated that the size of the 'black economy' was around $50 billion (or 3% of GDP) and the government introduced a number of measures to reduce its size over recent years. This includes the requirement for businesses (e.g. banks) to report significant cash transactions ($10,000 or more) and making it easier for people to report black market activity to the Australian Tax Office (through the Tax Integrity Centre).

Questions:

1. **Define the term black market.**
2. **List three examples of black market activity.**
3. **Provide an example of black market activity where the price being charged is relatively high and explain why the price is likely to be high.**
4. **Provide an example of black market activity where the price being charged is relatively low and explain why the price is likely to be low.**
5. **Discuss two reasons why governments are keen to minimise the extent of black market activity in the economy.**

3.2 The law of demand and the demand curve

The previous section outlined the important characteristics of markets – demand, supply and price. We will now explore each of these characteristics in more detail.

The **demand** for a good or service represents the willingness and ability of buyers or consumers to purchase goods and services. The total demand for a product will depend on a number of factors, with the most obvious factor being the price of the product. As already discussed in Chapter 1 and 2, an important assumption is that economic agents, including buyers, consistently act rationally. A rational consumer will seek to purchase products at the lowest price possible because it maximises the 'value' he or she gets from purchasing and consuming the product. You will recall it was explained in Chapter 2 that economists refer to this as '**utility**.'

Almost without exception, when the price of a product falls, the total demand for the product will rise in response. This occurs because many existing consumers will increase the amount or quantity they purchase given that they can now afford to buy more - this is referred to as the **'income effect'**. In addition, and other consumers may turn away from a rival product and substitute into the existing product because it becomes 'relatively' cheaper - this is referred to as the **'substitution effect'**. For example, if the price of cherries falls from $10 per kilogram to only $5 it is likely to cause some customers to purchase two kilograms instead of one kilogram (income effect) and it will no doubt lead some consumers to substitute away from blackberries and towards cherries (substitution effect). This relationship between the price of the product and the total quantity demanded in the market place is often referred to as the **Law of Demand.**

Teachers can download the **'Auction Activity'** from the teachers resources section of www.ecogroundup.com.au It provides a fun way of demonstrating the law of demand in action

Law of Demand: as the price of a product increases, the total quantity demanded decreases and as the price decreases the total quantity demanded increases. There is an inverse relationship between between price and quantity demanded.

The demand curve

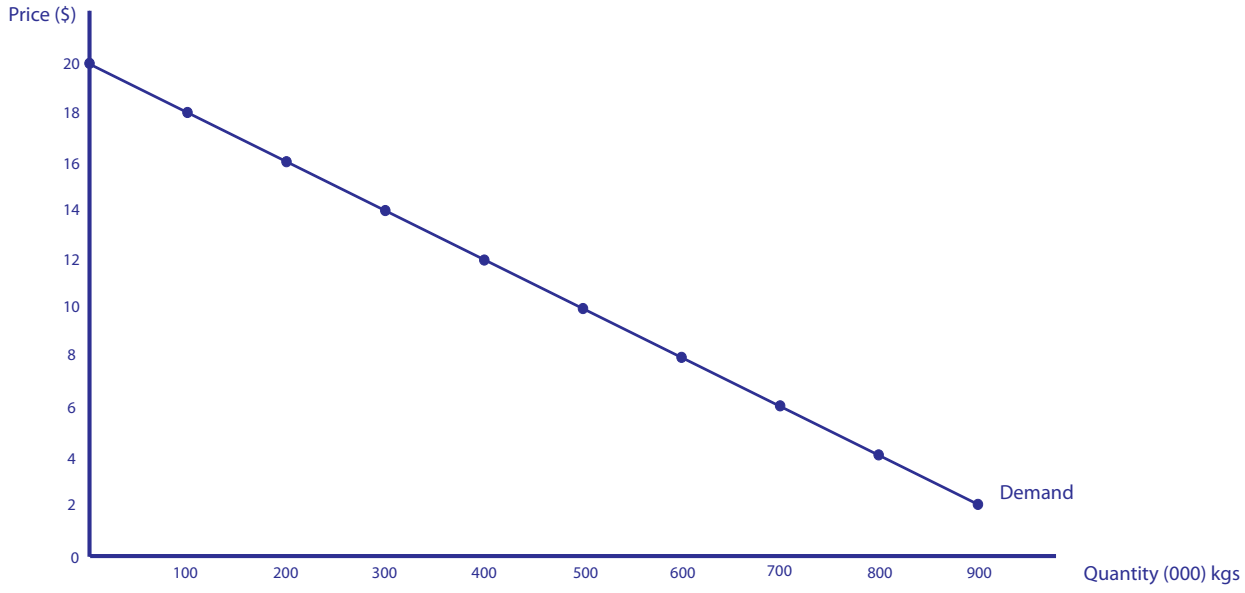
Table 3.1 below depicts the possible relationship between price and the quantity demanded for cherries in Victoria over the month of December each year. As the price falls from $20 per kilogram, the demand for cherries increases from zero kilograms (kgs) when the price is $20 to as high as 900,000kg when the price is as low as $2.

Table 3.1: Demand for cherries (kg)	
Price per kg($)	Demand (000)
20	0
18	100
16	200
14	300
12	400
10	500
8	600
6	700
4	800
2	900

To construct a demand line (often called a demand curve because, in reality, they often take a curved shape), draw a vertical (Y) axis and label the axis with the various prices set out in the table, starting from zero at the origin and progressively moving up to as high as $20. Then draw a horizontal (X) axis and label the various quantities as set out in the table. It is important to get the scale correct for both axis and for total accuracy it is best to use either graph paper or the computer graphing programme, Excel. Then plot the values for demand onto the graph that correspond to each price (in this case a total of ten values should be plotted).

The demand curve should resemble the following:

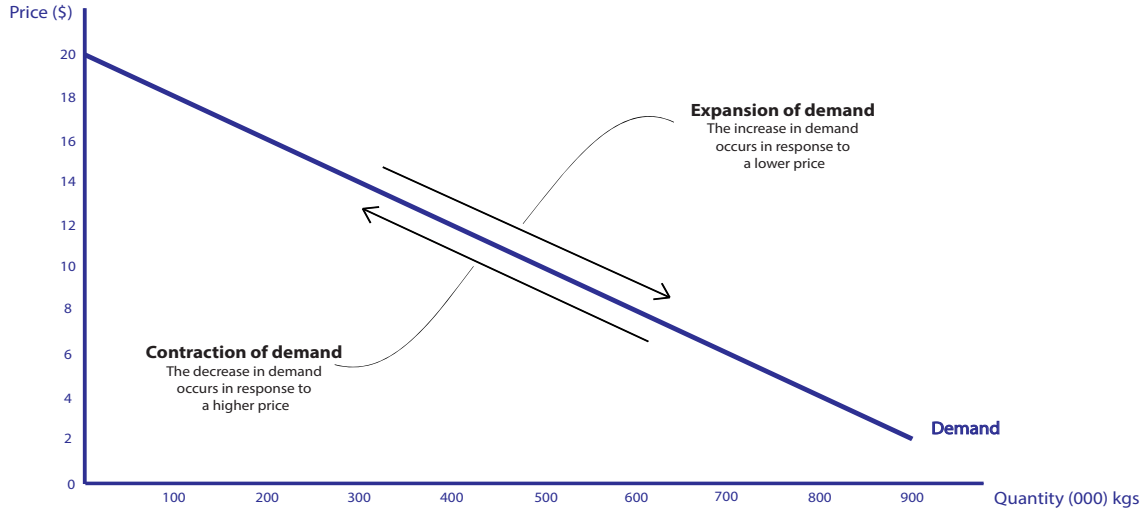
Figure 3.1:
Demand for cherries



This demand curve captures the Law of Demand, with an inverse relationship between price and the quantity demanded. A movement backwards (or up) along the demand curve is often referred to as a **contraction of demand** and occurs because a higher price causes the total demand for the product in the market place to fall. A movement downwards along the demand curve is often referred to as an **expansion of demand** and occurs because a lower price causes the

total demand for the product in the market place to rise. Figure 3.2 illustrates the difference between an expansion and contraction of demand.

Figure 3.2
Expansion and contraction of demand



The slope or steepness of the demand curve is related to a concept called 'the **price elasticity of demand**'. In short, this is defined as the responsiveness of the quantity demanded to a change in the price, with a flatter curve representing a high degree of consumer responsiveness to a change in price (that is a high price elasticity of demand) and a steeper curve the opposite. This concept is explored fully in Unit 3 Economics and warrants no further attention in this course. Nevertheless, it is worth noting that accurate predictions about changes in the quantity demanded in response to a change in price will be affected by the price elasticity of demand.

Review questions 3.2

1. Explain what is meant by 'demand'.
2. Define the Law of Demand.
3. Explain why the demand for a product is inversely related to the price. In your answer, distinguish the 'income effect' from the 'substitution effect'
4. Distinguish a 'contraction of demand' from an 'expansion of demand'.

3.3 Non-price factors affecting the demand for goods and services

In addition to the actual price of the product, there are many other factors that can affect the total quantity demanded for any product. A change in any one of these **demand factors** will cause demand to either increase or decrease. To illustrate, if the price of cherries remained at $10kg, there are a range of factors that could cause the demand for cherries to change. For example, the price of blackberries could fall, resulting in consumers demanding fewer cherries and more blackberries. Alternatively, the average incomes of consumers might have increased, leading to an increase in demand for cherries (as well as many other products).

With the exception of a change in the price a particular product, there are a host of other factors that could lead to a change in the demand for that product. These include:

Disposable income

Study tip

Disposable income is only one of many types of income. Other income types are explored more fully in Chapter 6.

As discussed in Chapter 1, incomes are primarily earned by households for their contribution to production, the bulk of which occurs in the form of wages and salaries. However, not all of this income is available for spending because of the legal obligation to pay income tax to the government. The federal government imposes this tax to raise money that can be used to pay for most of the government services that we all use every day, including the provision of roads, hospitals, schools, parks, and so on. When income taxes increase, it will reduce the income available to households 'after tax', called **disposable income**, and when these taxes fall it will lead to an increase in disposable income.

Disposable incomes will therefore be affected by both the amount of income earned by households and the burden imposed by personal income taxes. Higher incomes and/or lower income taxes will, **ceteris paribus**, increase purchasing power and raise the demand for many products. In contrast, lower incomes and/or higher income taxes will, ceteris paribus, decrease purchasing power and reduce the demand for many products.

The price of substitutes

In many markets, the goods or services are very similar, or even the same in terms of the benefits provided to consumers. We refer to this as the products being somewhat **homogenous.** For example, margarine and butter are reasonably close substitutes and Caltex petrol is a very close substitute for Shell petrol. If there was a decrease in the price of **substitute products** in the market place, the demand for products offered by the established businesses should fall. This is because some consumers will switch to the new substitutes which are now relatively cheaper. For example, cheaper fuel offered at Caltex service stations will typically entice consumers to buy fuel from Caltex rather than Shell or other petroleum companies.

The price of complements

When two products are typically consumed together, they are likely to be complements and considered '**complementary products**'. For example, commonly sugar is a complement for coffee and margarine is a complement for bread. If there is an increase in the price of a product such as coffee, we should expect a fall in the demand for a complementary product, such as sugar. This is because the higher price of coffee reduces the demand for coffee, and as fewer people drink coffee, the demand for sugar falls because it is normally consumed with coffee. Similarly, if the price of a product falls (e.g. bread) we should expect the demand for a complementary product (e.g. margarine) to rise. In this case, this is because, as the price of bread falls, demand for bread rises, and as a consequence there is an increase in demand for the product that is complementary to bread – margarine.

Preferences and tastes

Many products offered for sale in markets will come into or go out of fashion. This particularly relates to clothing and footwear markets, where consumer preferences for specific items of clothing or footwear will change due to marketing or other factors. For example, if **consumer tastes** changed from a preference for tailored trousers or skirts to a preference for ripped jeans, we would expect the demand for ripped jeans to rise and the demand for tailored trousers /skirts to fall.

Australian household preferences for services (as opposed to goods) has increased in line with our growth in average (disposable) incomes. These services include 'luxuries' such as holidays and leisure activities, as well as domestic household services such as cleaning and home maintenance. The increased preference for services has also been faciliated by advances in technology. For example, the increasing consumer preference for online shopping has not only increased the demand for online (and foreign) products, it has also created an increased demand for services provided by couriers and Australia Post, as goods purchased online require delivery around Australia.

In addition, the preferences and tastes for Australian goods and services by foreigners (i.e. Australian **exports**) will also change in response to factors such as fashions and trends that emerge overseas, or even the state of **economic development** in other countries. For example, the increasing incomes (and wealth) enjoyed by Chinese households in response to decades of strong economic growth has resulted in huge demand for premium Australian meat (e.g. beef and lamb) as well as growth in the demand for key Australian service exports, tourism and education.

Consumer preferences and tastes are heavily influenced by the marketing and promotion of their products by businesses. Effective marketing, part of which is advertising, serves to change consumer preferences and increase the demand for particular products. For example, Apple products are extremely popular for a range of reasons, an important one being the amount of marketing expenditure undertaken by Apple, which focuses on promoting the uniqueness of their products. As we will learn in Chapter 5, business attention to the field of **behavioural economics** has significant implications for the nature and effectiveness of marketing efforts by businesses.

Study tip

Over recent years, 'buy now pay later services' such as 'Zip Pay', 'Afterpay' and 'Wizpay' have become extremely popular. They effectively operate like a loan or line of credit, enabling consumers to purchase products now and pay later. While there is no interest charged for the service, consumers stand to pay 'late fees' which can compound over time. The increased popularity of these payment methods has helped to increase the demand for goods and services produced by those businesses accepting these forms of payment.

Interest rates

The **cost of borrowing** is usually measured by the level of interest rates attached to various forms of credit, such as credit card rates or even home loan rates. When interest rates increase it will lead to many households experiencing a fall in how much cash they have available for spending (also referred to as **discretionary income**). This is because their existing loans will usually cost more to repay - unless the interest rates are fixed on all their loans. As a consequence, households will tend to demand fewer goods and services across the board. In addition, the higher interest rates will reduce the

demand for loans (as they are now more expensive) and therefore reduce the demand for many products. Rising interest rates will have a particular effect on demand for those larger items that are often purchased using credit (either credit cards or loans), such as property, cars, televisions, fridges, freezers, holidays etc.

Changes in population

A larger population size will necessarily increase the demand for a wide range of goods and services that are needed to support the increasing number of individuals or households. For example, Western Australia has recently had the fastest growing population of Australian states, followed by the ACT and Victoria. Given that the new entrants into the cities in these states require housing (and other household services), **population growth** is one of the major factors contributing to the continuing high demand for residential properties in these states.

The changing **demographics** of the population will also have major implications for the demand for particular kinds of goods and services. For example, if the increase in Australia's population has occurred - in part - because of the success of the **baby bonus** offered in the past, then this will mean that the demand for goods and services related to child rearing will increase. This includes food and clothing goods for babies as well as child care services. Alternatively, if a larger population occurs because of a re-commitment to immigration following the border closures during the COVID-19 pandemic, then this will have implications for the demand for a different range of goods and services, including housing and household products and specific foods that are popular with the newly arrived migrants.

Consumer sentiment

Consumer spending levels are always heavily influenced by consumer perceptions about future income levels or job prospects. During times when households are more pessimistic about their future income or wealth levels (such as during the 'COVID recession of 2020'), **consumer sentiment** in the economy is low and the demand for most goods and services falls. This particularly applies to the demand for non-essential items (or luxuries) like restaurant meals, entertainment items (e.g. concert tickets) and new cars.

Government intervention

Study tip

In your study of Economics, it is extremely important to understand demand factors. Be careful not to confuse demand and supply factors with each other. It may be helpful to always keep in mind that demand factors influence the consumer's (or buyer's) decision making, while supply factors (to be discussed later) influence the decision making of the producer or seller.

In Unit 2 we will examine the need for government intervention in markets, such as those designed to manipulate the labour market (Chapter 7), those designed to facilitate international trade (Chapter 8) and those designed to address some market failures (Chapter 9). At this stage we will concentrate on the effect that government intervention can have on consumer demand for products. In particular, how the government introduces measures that are designed to influence consumer preferences/tastes and/or change the relative prices of consumer goods and services, which was also canvassed in Chapter 2.

There are a host of ways governments intervene to affect demand for goods and services, with the overriding objective of governments being to shift demand from one product to another. In other words, to change the allocation of resources from the production of some goods and services to others.

Laws that prohibit smoking in enclosed spaces are an example of a law that intentionally reduces the demand for a particular product, namely cigarettes. Alternatively, there are other laws that prohibit the consumption of certain products, such as underage drinking laws that effectively reduce the demand for alcohol, and laws preventing individuals from carrying knives in public. Importantly, during the COVID-19 pandemic the government introduced a range of measures that were designed to limit the spread of the disease, such as forced lockdowns, curfews and mandating the wearing of personal protective equipment such as face masks.

In addition to laws that attempt to change consumer behaviour, governments uses **taxes and/or subsidies** to either discourage or support certain types of consumption. Indirect taxes on certain products will ultimately lead to a higher price because the tax raises the costs of production for producers. [In this respect, the indirect tax becomes a supply factor that will be discussed later]. Consumers will then notice the higher (relative) price for the relevant good or service and choose to **substitute** into the consumption of another good or service. These taxes will therefore affect the demand for products through their ability to impact on the price of substitutes and complements (covered earlier). Common examples include the excise taxes on cigarettes and alcohol that are ultimately designed to encourage consumption away from cigarettes and alcohol and towards other (substitute) products. Another example relates to the possible

implementation of a 'sugar tax' (or tax on sugar sweetened softdrinks) to tackle obesity rates in Australia following its implementation in Britain during 2016.

Government subsidy support to producers (again a supply factor that will be discussed later) will also affect the price for the relevant good or service and impact on the demand for substitutes and complements. For example, government subsidies to renewable energy producers resulted in a lower price for products like solar panels. This caused the demand for the substitute product (i.e. electricity off the grid) to fall. Similarly, governments offer **rebates** (a return of part of the money outlaid on the purchase of a particular product) or other forms of assistance in order to increase demand for specific goods and services. Examples include rebates that have been offered on the purchase of solar hot water systems, water tanks, and child care services.

Review questions 3.3

1. Outline how five of the following **factors** can affect the demand for particular products:
   - Disposable income
   - The price of substitutes
   - The price of complements
   - Preferences and tastes
   - Interest rates
   - Changes in population
   - Consumer sentiment
   - Government intervention

Application Exercise 3c: Changes in demand

For each of the situations below, outline what is likely to happen to the demand (D) for the relevant product and explain why this is likely to occur. You should draw up a table like that illustrated below. The first one has been done for you.

Demand for	Situation	D increases or decreases	Why D is likely to increase or decrease
Building materials	**There is an increase in the size of the population**	**Increase**	**Because homes need to be built for the increased number of households**
Child care services	The government offers a cash rebate for spending on child care expenses		
Apples	The price of pears drops significantly		
Butter	The price of margarine decreases		
Luxury cars	Income levels rise significantly		
Home extensions	Interest rates rise		
Motor vehicles	There is a fall in consumer sentiment		
Electric cars	The price of oil and petrol falls		
Postal services	There is an increase in online shopping		
Coffee	The price of sugar increases by over 1000%		
Cigarettes	Laws are introduced requiring graphic anti-smoking messages on packaging		
Solar panels	The government reduces a rebate for households installing solar panels		
Bottled water	The government decides to introduce a tax on sugary drinks		
Uber ride sharing	Ola and DiDi enter the ride sharing market		
Guns	The government further tightens gun laws		
Gas	There is a prolonged 'cold snap' in Australia		
Hand sanitiser	People become more concerned about the transmission of diseases since COVID-19		
Petrol	The price of electric vehicles halves		
Education exports	The government closes borders		
Face masks	The COVID-19 pandemic runs its course		

3.4 Movements along the demand curve versus shifts of the demand curve

In Section 3.2 we explored the relationship between the price of a product and the demand for that product, where the law of demand determined the slope of the demand curve. Figure 3.2 illustrated that a higher price would result in a lower quantity demanded, and this was referred to as a contraction of demand. Conversely, a lower price would result a higher quantity of demand. These changes in demand (contraction or expansion) are commonly referred to as movements along the demand curve with a **higher or lower price** of the product itself being the only factor causing a change in quantity demanded.

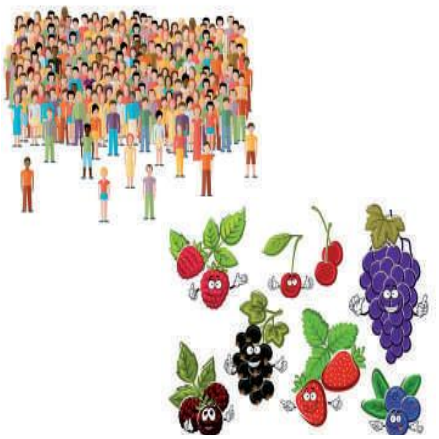
In Section 3.3 we then examined a number of non-price factors that would cause a change in the demand for goods and services. Each of these factors will also cause a change in quantity demanded *independent* of price and will therefore result in the demand curve shifting its position, either to the left or the right. An increase in the quantity demanded will result in the demand curve shifting to the right and a decrease in the quantity demanded will result in the demand curve shifting to the left.

A higher quantity demanded

The difference between movements along the demand curve and shifts of the demand curve will be illustrated with reference to the earlier example of cherries. Let's assume the demand for cherries has increased for a reason that is unrelated to the price of cherries, such as a larger population or a higher price of substitute products, such as strawberries or raspberries. Table 3.2 shows the original demand for cherries (D1) as well as the hypothetical new demand (D2).

Table 3.2: Demand for cherries (kg) increases at every price

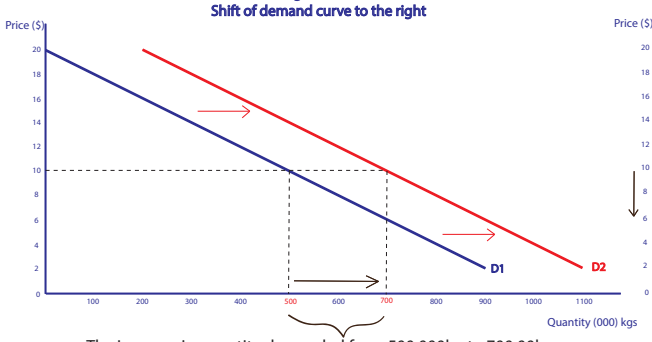
Price per kg($)	D1 (000)	D2 (000)
20	0	200
18	100	300
16	200	400
14	300	500
12	400	600
10	500	700
8	600	800
6	700	900
4	800	1000
2	900	1100



It is assumed that demand for cherries has increased by 200,000kg irrespective of price. This translates into an additonal 200,000kg of cherries being demanded at every possible price level. When these new values for demand are plotted, we arrive at a new demand curve, D2, that sits to the right of the previous demand curve, D1. This shift to the right of the demand curve is illustrated in Figure 3.3.

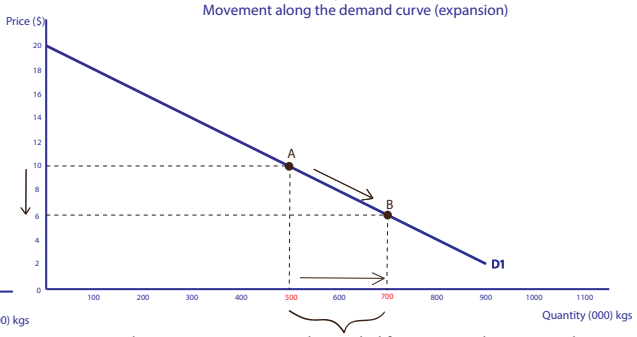
The higher quantity demanded that has occurred because of a non-price factor is contrasted with a higher quantity demanded that occurs because of a fall in price. This is illustrated in Figure 3.4. Referring now to the original demand curve (D1), a price fall from $10kg to $6kg causes the quantity demanded to increase from 500,000kg to 700,000kg.

Figure 3.3:
Shift of demand curve to the right



The increase in quantity demanded from 500,000kg to 700,00kg has occurred with the price remaining unchanged at $10kg. This 200,000kg increase in demand will occur at every price level. Hence, the increase in demand has occurred irrespective of price which means that demand has increased because of a 'non-price' factor.

Figure 3.4:
Movement along the demand curve (expansion)



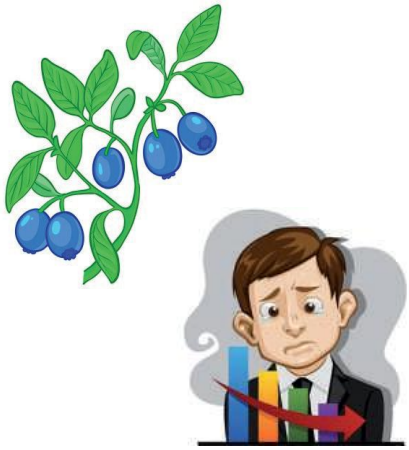
The increase in quantity demanded from 500,000kg to 700,00kg has occurred because the price has fallen from $10kg to $6kg. Demand has therefore increased (expanded) along the demand curve from point A to B because of a lower price.

A lower quantity demanded

Let's now assume the demand for cherries has decreased for a reason that is unrelated to the price of cherries, such as lower average disposable incomes or a change in tastes away from cherries to other fruits. Table 3.3 shows the original demand for cherries (D1) as well as the hypothetical new demand (D2).

Table 3.3: Demand for cherries (kg) decreases at every price

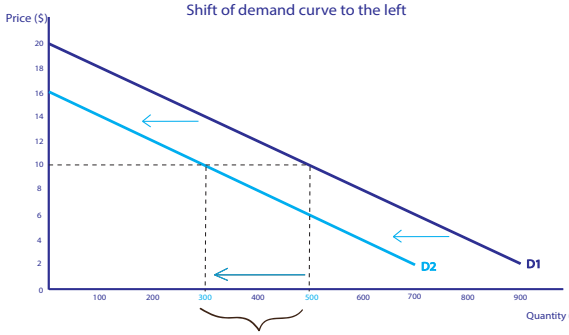
Price per kg($)	D1 (000)	D2 (000)
20	0	0
18	100	0
16	200	0
14	300	100
12	400	200
10	500	300
8	600	400
6	700	500
4	800	600
2	900	700



It is assumed that demand for cherries has now decreased by 200,000kg irrespective of price. This translates into 200,000kg fewer cherries being demanded at every possible price level. When these new values for demand are plotted, we arrive at a new demand curve, D2, that sits to the left of the previous demand curve, D1. This shift to the left of the demand curve is illustrated in Figure 3.5.

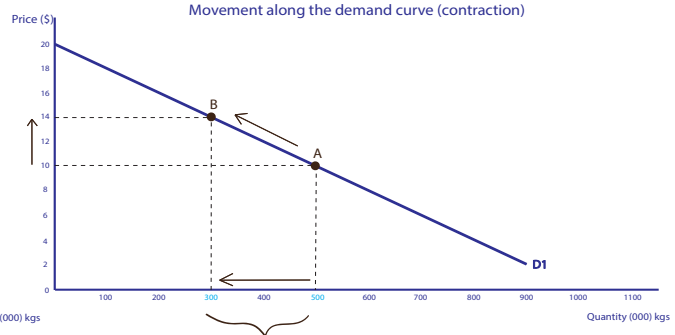
The lower quantity demanded that has occurred because of a non-price factor is contrasted with a lower quantity demanded that occurs because of a higher price. This is illustrated in Figure 3.6. Referring now to the original demand curve (D1), a price rise from $10kg to $14kg causes the quantity demanded to decrease from 500,000kg to 300,000kg.

Figure 3.5:
Shift of demand curve to the left



The decrease in quantity demanded from 500,000kg to 300,00kg has occurred with the price remaining unchanged at $10kg. This 200,000kg fall in demand will occur at every price level. Hence, the fall in demand has occurred irrespective of price which means that demand has decreased because of a 'non-price' factor.

Figure 3.6:
Movement along the demand curve (contraction)

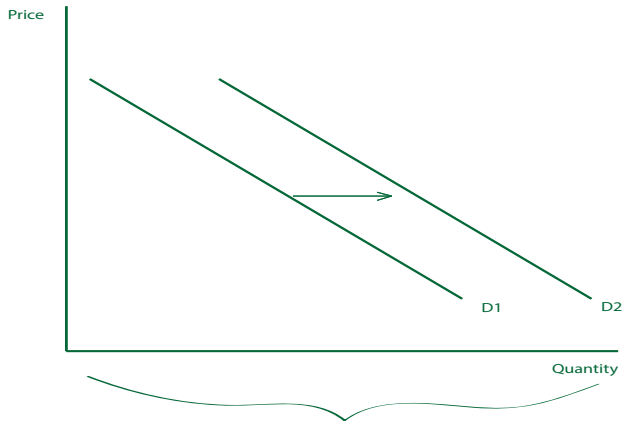


The decrease in quantity demanded from 500,000kg to 300,00kg has occurred because the price has risen from $10kg to $14kg. Demand has therefore fallen (contracted) along the demand curve from point A to B because of a higher price.

Remembering the key differences between a shift of the demand curve and a movement along the demand curve is crucial to understanding the way markets operate to adjust prices and quantities. This will become more apparent when we analyse the effects of changes in demand and supply on **equilibrium** prices and quantities in Section 3.8.

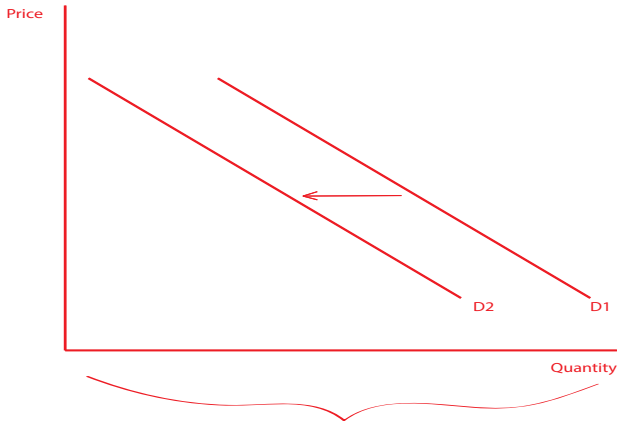
Figure 3.7 provides a summary of how each of the non-price factors listed in section 3.3 can either shift the demand curve to the left (i.e. decrease demand) or shift the demand curve to the right (i.e. increase demand).

Figure 3.7
How non-price factors shift the demand curve



POSITIVE DEMAND SIDE FACTORS

An increase in disposable income
An increase in the price of a substitute product
A decrease in the price of a complementary product
Favourable changes in preferences/tastes
A decrease in interest rates
An increase in the size of the population
Favourable changes in population demographics
An increase in consumer sentiment
Favourable changes made by governments
{e.g. more consumer rebates or a tax on substitutes}



NEGATIVE DEMAND SIDE FACTORS

A decrease in disposable income
A decrease in the price of a substitute product
An increase in the price of a complementary product
Unfavourable changes in preferences/tastes
An increase in interest rates
A decrease in the size of the population
Unfavourable changes in population demographics
A decrease in consumer sentiment
Unfavourable changes made by governments
{e.g. fewer consumer rebates or a tax on complements}

Review questions 3.4

1. Identify three factors that will cause the demand curve for a product to shift to the right.
2. Identify three separate factors that will cause the demand curve for a product to shift to the left.
3. Referring to figures 3.3 and 3.4, describe two reasons to explain why the demand for cherries increased from 500,000kg to 700,000kg. In your answer, distinguish a shift of the demand curve from a movement along the demand curve.
4. Referring to figures 3.5 and 3.6, describe two reasons to explain why the demand for cherries decreased from 500,000kg to 300,000kg. In your answer, distinguish a shift of the demand curve from a movement along the demand curve.
5. Explain how each of the following are expected to shift the demand curve for a product.
   - An increase in disposable income
   - A fall in the price of a substitute product
   - A rise in the price of a complementary product
   - Favourable changes in preferences/tastes towards the product in question
   - Higher interest rates
   - A fall in the size of the population
   - Favourable changes in population demographics
   - A fall in consumer sentiment
   - An increase in consumer rebates for the purchase of a product
   - The removal of a tax on substitutes
   - The implementation of a tax on complements
   - Government attempts to discourage consumption, such as the legal requirement to have warning labels on a product

3.5 The law of supply and the supply curve

The **supply** of a good or service represents the willingness or ability of suppliers or producers to produce and/or sell goods and services. The most obvious factor determining the quantity of supply for particular products in markets is the price of the product. If suppliers expect to receive a relatively high price for their product, then they are likely to be more willing to supply this product to the market because they expect to make a larger **profit** (i.e. sales revenue minus costs). Conversely, if the price is expected to be low then they are likely to be willing to supply less of this product to the market because a smaller profit profit per item is expected is expected. This relationship between the price of a product and the willingness to supply is often referred to as the **Law of Supply.**

Law of Supply: as the price of a product increases, the supply increases, and when the price decreases the supply decreases. There is a positive relationship between price and quantity supplied.

The supply curve

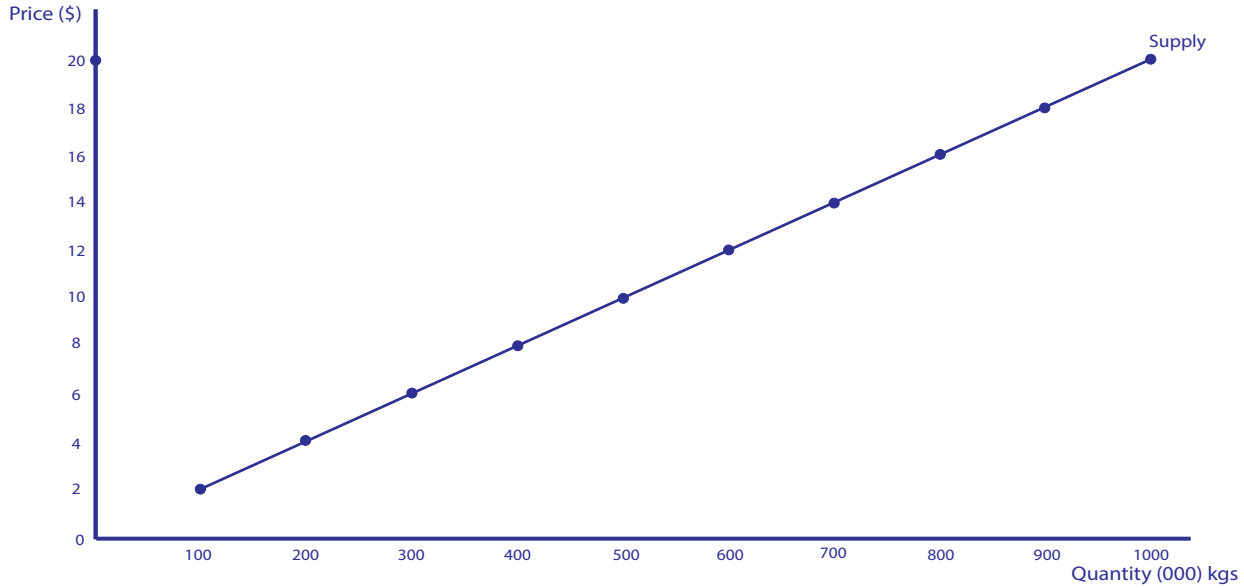
Table 3.4 depicts the possible relationship between price and the quantity supplied for cherries in Victoria over the month of December each year. As the price rises from $2 per kilogram, the supply of cherries increases from 100,000 kg to as high as 1,000,000kg when the price is as high as $20kg.

Table 3.4: Supply of cherries (kg)

Price per kg($)	Supply (000)
20	1000
18	900
16	800
14	700
12	600
10	500
8	400
6	300
4	200
2	100

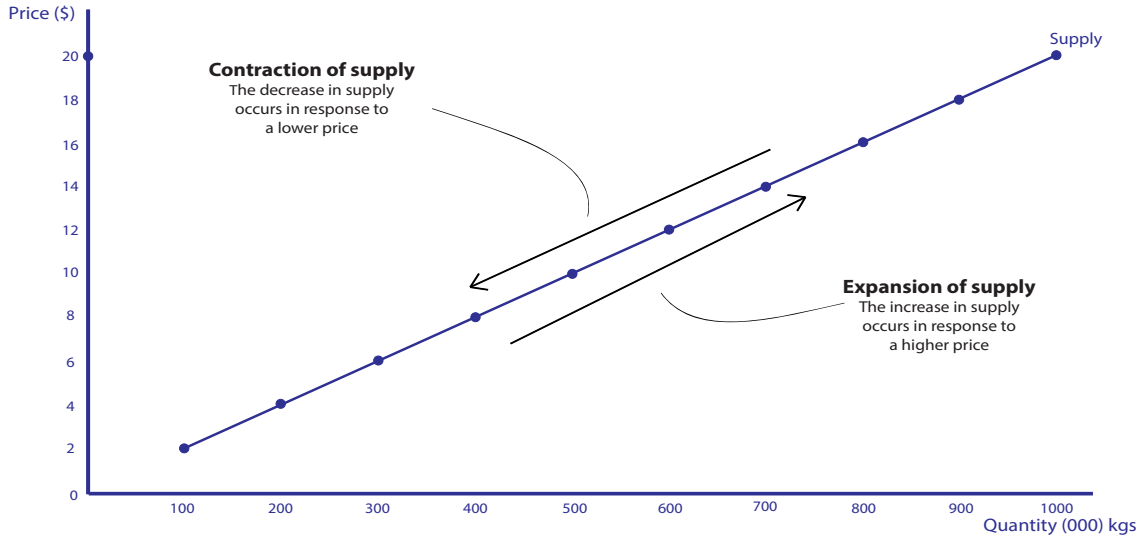
Using the same scale that was used for the demand curve for cherries (or even the same graph), plot the values for supply onto the graph that correspond to each price. As was the case for the demand curve, we should plot a total of 10 values. The supply curve should resemble the following:

Figure 3.8
Supply of cherries



This supply curve captures the Law of Supply, with a positive relationship between price and the quantity supplied. A movement back down along the supply curve is often referred to as a **contraction of supply** and occurs because a lower price discourages producers and causes them to decrease supply to the market over time. A movement up along the supply curve is often referred to as an **expansion of supply** and occurs because a higher price encourages producers and causes them to increase supply to the market over time. Figure 3.9 illustrates both an expansion and contraction of supply.

Figure 3.9
Expansion and contraction of supply



The slope or steepness of the supply curve is related to a concept called 'the **price elasticity of supply**'. In short, this is defined as the responsiveness of the quantity supplied to a change in the price, with a flatter curve representing a high degree of responsiveness to a change in price (that is a high price elasticity of supply) and a steeper curve the opposite. [Once again, while a knowledge of this concept is useful at this stage, it is not required for the purposes of Unit 1 Economics as it is explored fully in Unit 3.]

Review questions 3.5

1. Explain what is meant by '**supply**'.
2. Define the Law of Supply.
3. Explain why the supply of a product is positively related to the price, making reference to 'profit' in your explanation.

3.6 Non-price factors affecting the supply of goods and services

In addition to price, there are numerous other **factors** that can change the relative profitability of certain products and therefore affect supply. A change in any one of these factors can cause an increase or decrease in the **costs of production,** which are the costs associated with the making of a product. More specifically, these factors are likely to influence the costs of production for suppliers and therefore change their willingness to supply the product at any given price.

When costs of production for a producers increase, the profit to be made per unit of product(s) decreases and they will be less willing to supply as much of that product to the market. Instead, they might prefer to supply more of another product whose production costs are now 'relatively' lower. This decision is related to the concept of **opportunity cost** discussed in Chapter 1, because if the cost of producing a specific product increases, the opportunity cost of continuing to supply the same amount of that product to the market also increases. The producer will therefore look for ways to minimise the opportunity cost by either:

- reducing supply to the market and supplying more of another product instead; and/or
- supplying the same amount to the market but increasing the price to protect their profit margin. **Profit margin** is, in simple terms, the difference between price and cost.

To illustrate how this works, we will use the example of a large landholder that uses 50% of her land for wine production and the other 50% for apple growing. If the costs of producing wine increase (for example, due to the introduction of a new tax on wine), but the costs of apple growing remained the same, the producer is, ceteris paribus, likely to devote less of her land to wine production and more to apple growing. This is because the relative profitability of apple growing is going to be higher when compared to wine production (and therefore the opportunity costs of wine production will

be higher) leading the producer to supply less wine to the market. Alternatively, the producer might initially respond to the new tax by raising the price of wine to cover the higher costs. Given that the higher price is likely to reduce demand for wine (remember the Law of Demand?), the end result is very similar - with the wine producer supplying less wine to the market and devoting less land to wine production. Of course, the reverse will apply if the wine producer experiences a fall in the costs of wine production or if there is a rise in the costs of apple production.

The following **factors** will also work to change the willingness of producers to supply products to the market. You will notice that they are all factors that affect either the cost of production or the availability or quality of inputs.

Specific costs of production

While all of the factors listed below will ultimately impact on the **costs of production**, it is worth making specific mention of how some of the major business costs impact on the supply decisions of businesses.

Study tip

It is useful to remember that materials are inputs in the production process, but not factors of production, like labour and capital. All materials, raw and semi-processed, are designed to become part of the product, whereas labour and capital are examples of resources that are needed to convert all materials into a finished product.

- If the **costs of labour** (such as wages) were to increase, it means that it costs more to employ a given workforce, leading to higher production costs. Producers would be willing to supply fewer products to the market at any existing price.
- Just like the costs of labour, most businesses will employ capital, such as machinery, vehicles, robotics, computers and equipment. A rise in the **cost of capital** will also lead to a reduction of supply to the market.
- The **materials** are effectively parts of the 'unfinished product', such as steel and plastics used in the production of a motor vehicle, or seeds and fertilizers for apple production. When the costs of materials increase it will also lead to a reduction of supply to the market.

Technological change

Advances in **technology** over recent years has resulted in a change in the way we purchase goods and services. For example, advances in communications technologies have facilitated the rapid expansion in digital or online purchases of goods and services which makes it easier for businesses to supply products to the market. Many businesses no longer require a physical 'shop-front' or retail presence and can effectively market their products through websites, apps or social media platforms.

Advances in technology have not only resulted in a change in the way we purchase goods and services but also the way these goods and services are made. The development of new products (such as ride sharing services) and improvements to existing products (such as advanced robotics helping to produce goods with greater speed and accuracy) has real benefits for producers. Ultimately, technological change has resulted in productivity growth that has helped to reduce costs of production and encouraged an increase in supply of various goods and services to Australian markets.

Productivity growth

Productivity refers to the efficiency of the business in terms of its ability to convert inputs into actual products. Productivity is technically defined as the ratio of output to inputs used in the production process, or the total output per unit of input. The output is simply the total volume of goods and services produced and inputs include both the physical inputs (such as materials) but also the factors of production (such as capital and labour) used to convert these physical inputs into goods and services. Productivity is often measured by the total volume of production for an enterprise (or even an economy) divided by the number of hours worked (**labour productivity**) or the total volume of production divided by a combination of inputs, such as labour and capital (**multifactor productivity**).

An increase in productivity (i.e. **productivity growth**) improves supply conditions for businesses because it effectively reduces the average costs of production as a greater volume of output can be produced with the same or fewer inputs. This will once again encourage an increase in supply of various goods and services to Australian markets.

Climatic conditions

The supply of a product in the market place can also be affected by the ability (rather than willingness) to supply the product. Changes in the ability to supply products is most common in commodity markets, such as agriculture and mining, where total amounts produced will largely depend on climatic factors and/or specific weather events. Natural disasters or unseasonal events, such as the droughts and floods affecting eastern Australia over recent years, negatively impacted on supply levels in a range of agricultural markets, such as restrictions to the supply of iceberg lettuces and other agricultural products during the east coast floods of 2022. In addition, mining supply was negatively affected by the floods which not only made it more difficult to extract ore from the ground, but hampered efforts to transport the minerals to railway or port facilities.

The longer term negative impact of climate change will also have significant implications for supply of goods and services to various markets. In addition to the increased incidence of natural disasters referred to above, climate change is expected to contribute to longer droughts as well as the destruction of vital tourism assets such as the Great Barrier Reef. This will clearly disrupt the ability of producers to supply agricultural goods and tourism services in the future.

Other disruptions such as COVID-19 and the war in Ukraine

The onset of **COVID-19** in early 2020, and the ensuing government responses to contain the spread of the virus, had a major negative impact on the supply of goods and services to various markets. Measures such as forced lockdowns and curfews by governments around the world restricted the ability of businesses to produce goods and services. The supply of labour was heavily restricted and productivity fell within those businesses that were still able to continue operating. This resulted in both higher production costs and a reduced willingness and/or ability to produce goods and services.

Similarly, supply of goods and services was once again negatively affected in early 2020 following the **'war in Ukraine'**. The war directly reduced the global supply of goods produced in Ukraine for export, such as wheat and corn, and also resulted in a reduced supply of (Russian) oil to global markets which caused the global price of crude oil to almost double, from USD 68 per barrel in late 2021 to as high as USD120 per barrel by mid-2022. Oil is a key ingredient in the production of fuel for transportation, as well as the production of other forms of energy, such as electricity. In addition, it has applications across numerous other industries, such as for use in the production of plastics, textiles, sporting goods and electronics. Its widespread use in all economies, either directly or indirectly, means that any change in the price of oil has the potential to significantly impact on costs of production and supply decisions by businesses. This was evident during 2022, with the price of petrol and diesel fuels increasing to well above $2 per litre, causing transportation costs to rise and prices of goods and services to increase substantially as producers reduced supply to markets and/or raised prices to protect profit margins.

Government intervention

In Unit 2 we will examine the need for government intervention via taxes and subsidies to address market failures (Chapter 9). At this stage it is worth highlighting that there are numerous examples of government intervention that are designed to influence producers and affect supply in various markets.

Suppliers are forced to pay direct income taxes (such as the **company tax**) as well as a host of other taxes. Examples of federal taxes affecting businesses include a range of **indirect taxes** such fuel, tobacco and alcohol excises, customs duties and the luxury car tax. Examples of state government taxes include payroll taxes, land taxes, as well as stamp duties and gambling taxes. If these taxes are lowered on all or any products, we should see an increase in the willingness to supply. And, the reverse should also occur if taxes increase.

In addition, there are various **laws and regulations** impacting on the behaviour of producers are invariably implemented to achieve a better outcome for society. Examples include laws relating to Occupational Health and Safety, Workcover, Equal Opportunity, Anti-Discrimination, insider trading, product safety and standards, and competition laws more generally. The implentation of these laws is designed to achieve a more efficient allocation of resources or better overall living standards for Australians, but they do come at a cost for business. As the laws become more complex and difficult to comply with, the costs for business rise and the willingness to supply will necessarily fall.

The government also uses subsidies to influence producer behaviour. **Subsidies** are cash or other benefits given by governments to businesses in order to help them produce a particular product. For example, the motor vehicle industry received subsidies for many years to ensure that Australia continued to produce motor cars. The eventual removal of most of these subsidies over time resulted in motor vehicle producers reducing their supply of Australian-made cars

to the market and was a factor behind the major motor vehicle producers (i.e. Ford and Holden) deciding to cease operations in Australia from 2017.

Since 2020, the Australian government has increasingly considered the viability of once again becoming more active in subsidising businesses that produce those goods of strategic importance to the Australian economy. This follows the Australian experience over the course of 2020-21, where our capacity to produce vital goods and services was limited during the COVID-19 pandemic, causing shortages and exposing Australia to a potentially risky over-reliance on foreign countries. For example, Australia did not have the capacity to meet the demand for important medical supplies and equipment, such as ventilators, testing equipment and face masks. One of the government responses to the capacity constraints that developed during COVID-19 was to introduce initiatives (such as the Modern Manufacturing Strategy and the University Research Commercialisation Action Plan) that provide financial support for the domestic production of 'high priority' manufactured goods.

The government also provides various other subsidies designed to influence the willingness and ability of producers to supply, including those designed to incentivise the production of renewable energy (see Chapter 9), those related to the hiring of labour, such as the provision of wage subsidies (see Chapter 7) and those related to the support of exported orientated businesses via export market development grants (see Chapter 8).

Review questions 3.6

1. Explain why an increase in the costs of production is likely to reduce the supply of a product. In your answer make reference to profitability and opportunity costs.
2. Outline how five of the following **factors** can affect the supply of particular products:
   - A change in labour costs
   - A change in costs of capital
   - A change in the costs of materials
   - Changes in technology
   - Changes in productivity
   - Changes to the climate
   - Changes to tax laws
   - Changes to the costs of complying with government laws and regulations
   - Government subsidies

Application Exercise 3d: Changes in supply

For each of the situations below, outline what is likely to happen to the supply (S) for the relevant product and explain why this is likely to occur. You should draw up a table like that illustrated below. The first one has been done for you.

Market for	Situation	S increases or decreases	Why S is likely to increase or decrease
Cars	**The government decreases the subsidy given to motor vehicle manufacturers**	**decrease**	**Production costs will rise because more money is required to pay for operating costs**
Iceberg lettuces	A major flood destroys crops		
iPads	Productivity or efficiency of workers at the manufacturing plant has fallen		
Solar power panels	The government provides businesses with subsidies if they invest money in this technology		
Minerals	The government introduces a new mining tax		
Taxi service	The government introduces regulations to ensure that taxi drivers receive appropriate training and skill development		
Cattle	The government increases regulations in the cattle industry in light of allegations of cruelty to cattle		
Luxury cars	The government increases the luxury car tax		
Education	All teachers are awarded large pay rises		
Electricity	The government repeals a tax on the emission of carbon (i.e. a carbon tax).		
Tourism	The effects of climate change become apparent		
Minerals	Technological advances lead to the use of driverless trains and trucks		
Uber X ride sharing services	The government eases regulations applying to the taxi and hire car industry		

3.7 Movements along the supply curve versus shifts of the supply curve

In Section 3.5 we explored the relationship between the price of a product and the supply of a product, where the law of supply accounted for the upward sloping supply curve. Figure 3.9 illustrated that a higher price would result in a higher quantity supplied which was referred to as an expansion of supply. Conversely, a lower price would result in a lower quantity supplied. These changes in supply (expansion or contraction) are commonly referred to as movements along the supply curve, with a **higher or lower price** being the only factor causing a change in the supply of a good or service.

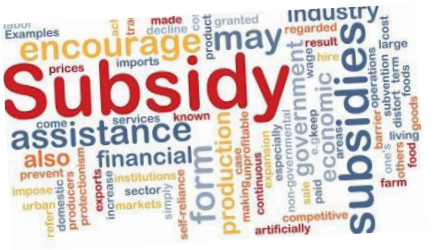
In Section 3.6 we then examined a number of non-price factors that would cause a change in the supply of goods and services. Each of these factors will also cause a change in quantity supplied independent of price and will therefore result in the supply curve shifting its position, either to the left or the right. An increase in the quantity supplied (for reasons other than a change in price) will result in the supply curve shifting to the right, while a decrease in the quantity supplied (for reasons other than a change in price) will result in the supply curve shifting to the left.

A higher quantity supplied

The difference between **movements** along the supply curve and **shifts** of the supply curve will be illustrated with reference to the earlier example of cherries. Let's assume the supply for cherries has increased for a reason that is unrelated to the price of cherries, such as the provision of a government subsidy to cherry growers or technological advances that resulted in growth in productivity on the farm. Table 3.5 shows the original supply of cherries (S1) as well as the hypothetical new supply (S2).

Table 3.5: Supply of cherries (kg) increases at every price

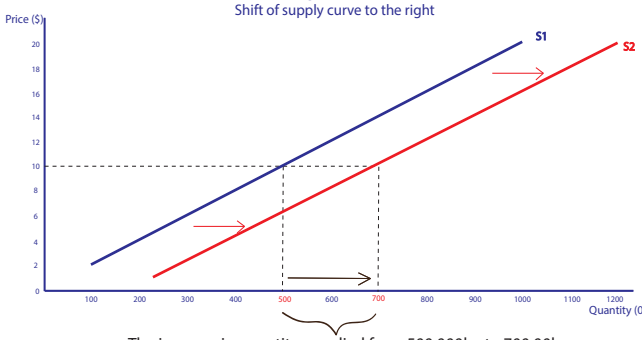
Price per kg($)	S1 (000)	S2 (000)
20	1000	1200
18	900	1100
16	800	1000
14	700	900
12	600	800
10	500	700
8	400	600
6	300	500
4	200	400
2	100	300



It is assumed that supply of cherries has increased by 200,000kg irrespective of price. This translates into an additonal 200,000kg of cherries that producers are willing to supply at every possible price level. When these new values for supply are plotted, we arrive at a new supply curve, S2, that sits to the right of the previous supply curve, S1. This shift to the right of the supply curve is illustrated in Figure 3.10.

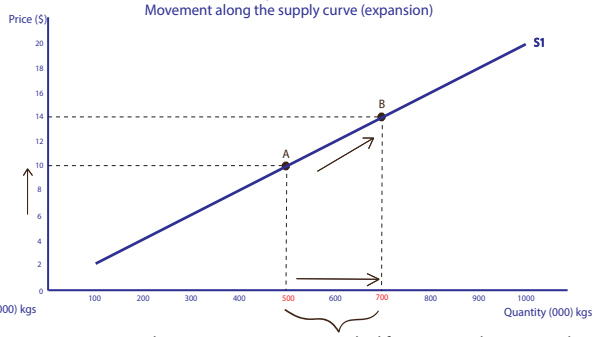
The higher quantity supplied that occurs because of a non-price factor is contrasted with a higher quantity supplied that occurs in response to a higher price. This is illustrated in Figure 3.11. Referring now to the original supply curve (S1), a price rise from $10kg to $14kg causes the quantity that producers are willing to supply to increase from 500,000kg to 700,000kg.

Figure 3.10:
Shift of supply curve to the right



The increase in quantity supplied from 500,000kg to 700,00kg has occurred with the price remaining unchanged at $10kg. This 200,000kg increase in supply will occur at every price level. Hence, the increase in supply has occurred irrespective of price which means that supply has increased because of a 'non-price' factor.

Figure 3.11
Movement along the supply curve (expansion)



The increase in quantity supplied from 500,000kg to 700,00kg has occurred because the price has risen from $10kg to $14kg. Supply has therefore increased (expanded) along the supply curve from point A to B because of a higher price.

A lower quantity supplied

Let's now assume the supply of cherries has decreased for a reason that is unrelated to the price of cherries, such as a natural disaster that wipes out cherry plantations or new government regulations that add costs to cherry industry producers. Table 3.6 shows the original supply for cherries (S1) as well as the hypothetical new supply (S2).

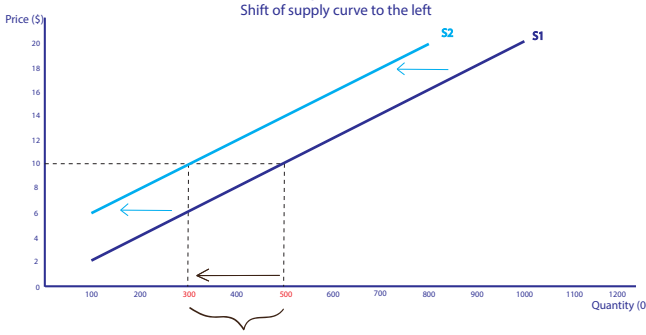
Table 3.6: Supply of cherries (kg) decreases at every price

Price per kg($)	S1 (000)	S2 (000)
20	1000	800
18	900	700
16	800	600
14	700	500
12	600	400
10	500	300
8	400	200
6	300	100
4	200	0
2	100	0

It is assumed that producers are now willing and/or able to supply 200,000kg fewer cherries irrespective of price. They will now be unwilling to supply any cherries to the market unless the price was $6kg. When these new values for supply are plotted, we arrive at a new supply curve, S2, that sits to the left of the previous supply curve, S1. This shift to the left of the supply curve is illustrated in Figure 3.12.

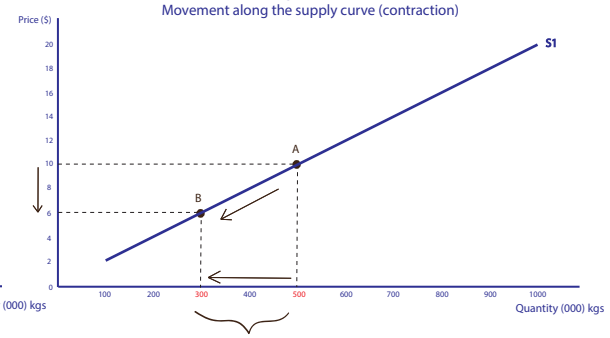
The lower quantity supplied that has occurred because of a non-price factor is contrasted with a lower quantity supplied that occurs because of a lower price. This is illustrated in Figure 3.13. Referring now to the original supply curve (S1), a price fall from $10kg to $6kg causes the quantity supplied to decrease from 500,000kg to 300,000kg.

Figure 3.12
Shift of supply curve to the left



The decrease in quantity supplied from 500,000kg to 300,00kg has occurred with the price remaining unchanged at $10kg. This 200,000kg fall in supply will occur at every price level. Hence, the decrease in supply has occurred irrespective of price which means that supply has decreased in response to a 'non-price' factor.

Figure 3.13
Movement along the supply curve (contraction)

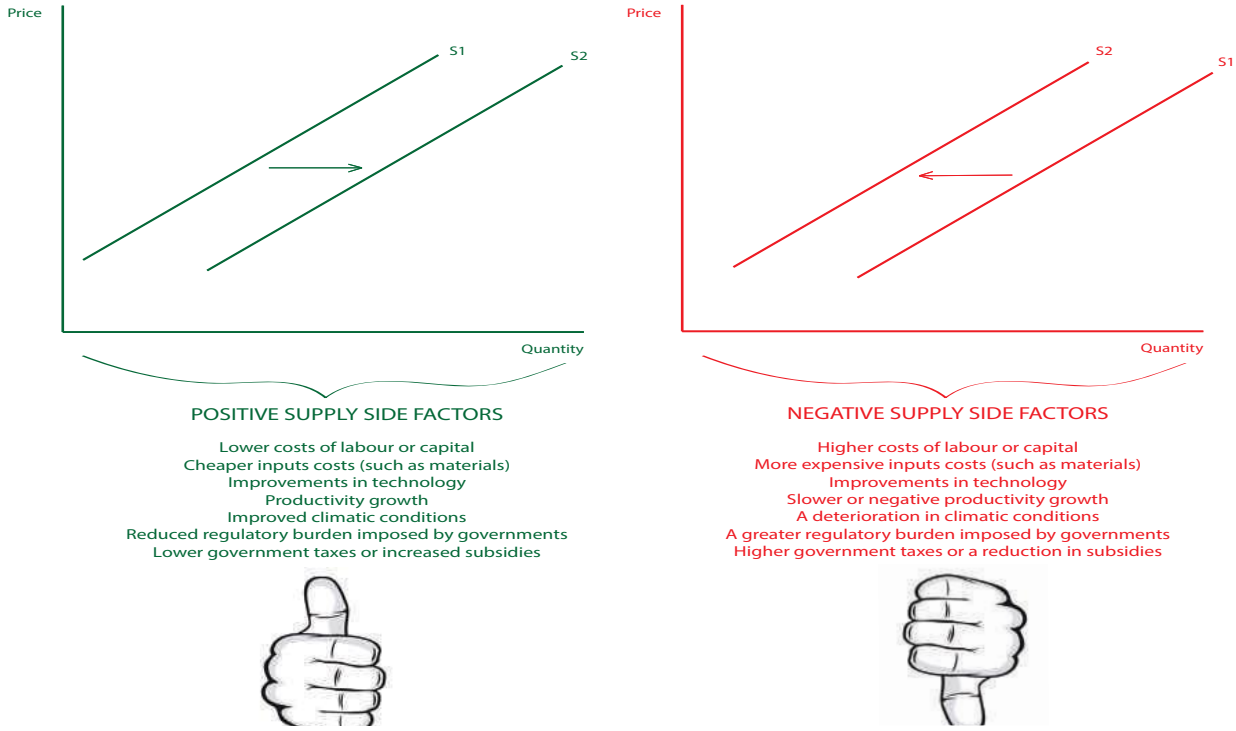


The decrease in quantity supplied from 500,000kg to 300,00kg has occurred because the price has fallen from $10kg to $6kg. Supply has therefore decreased (contracted) along the supply curve from point A to B because of a lower price.

Remembering the key differences between a shift of the supply curve and a movement along the supply curve is crucial to understanding the way markets operate to adjust prices and quantities. This will become more apparent when we analyse the effects of changes in demand and supply on equilibrium prices and quantities in Section 3.8.

Figure 3.14 provides a summary of how each of the non-price factors listed in Section 3.6 can either shift the supply curve to the right (i.e. increase supply) or shift the supply curve to the left (i.e. decrease supply).

Figure 3.14
How non-price factors shift the supply curve



Review questions 3.7

1. Identify three factors that will cause the supply curve for a product to shift to the right.
2. Identify three separate factors that will cause the supply curve for a product to shift to the left.
3. Referring to figures 3.10 and 3.11, describe two reasons to explain why the supply of cherries increased from 500,000kg to 700,000kg. In your answer, distinguish a shift of the supply curve from a movement along the supply curve.
4. Referring to figures 3.12 and 3.13, describe two reasons to explain why the supply of cherries decreased from 500,000kg to 300,000kg. In your answer, distinguish a shift of the supply curve from a movement along the supply curve.
5. Explain how each of the following are expected to shift the supply curve for a product.
   - Lower costs of labour
   - An increased cost of machinery and equipment
   - An increase in the price of raw materials used in production
   - Improvements in technology
   - A reduction in productivity
   - A natural disaster disrupting the business
   - More regulations introduced by governments
   - Lower government taxes
   - Fewer subsidies provided to the producer

3.8 Effects of changes in demand and supply on equilibrium prices and quantities

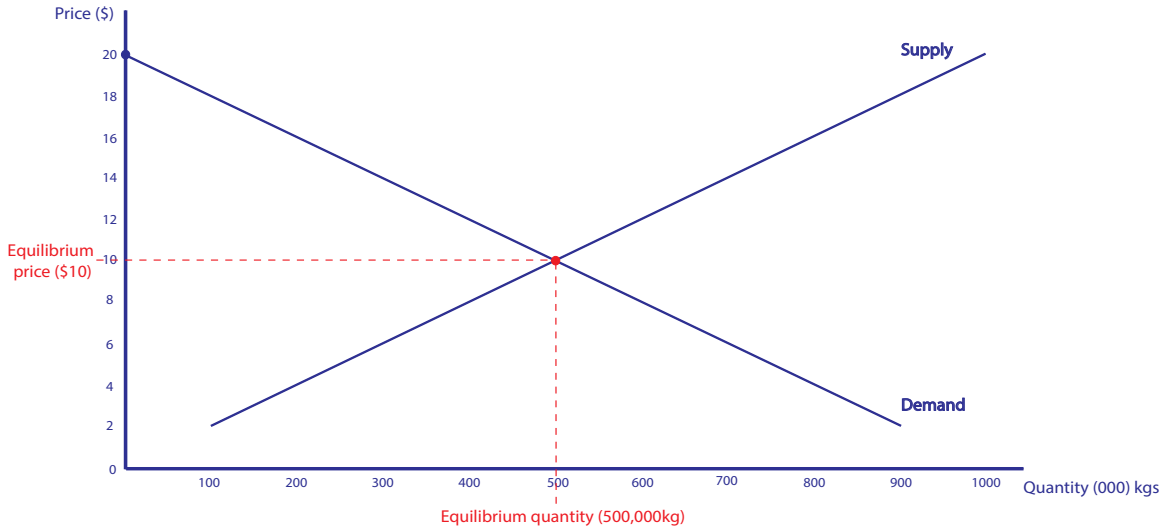
So far we have focused primarily on the demand and supply of goods and services on their own. The price, which is the rate of exchange or monetary value of a good or service, will depend on the relative strengths of demand and supply. In simple terms, when demand is high compared to supply, we would expect the price to be relatively high or increasing. Conversely, when demand is low compared to supply, we would expect the price to be relatively low or decreasing. The exact price and quantity sold in any market will therefore be determined by interaction of demand and supply.

Using the example of cherries to illustrate, Table 3.7 below summarises the original demand and supply of cherries that was presented earlier. The respective demand and supply curves are also included in Figure 3.15

Table 3.7: Demand and supply of cherries (kg)

Price per kg($)	Demand (000)	Supply (000)
20	0	1000
18	100	900
16	200	800
14	300	700
12	400	600
10	500	500
8	600	400
6	700	300
4	800	200
2	900	100

Figure 3.15
Market for cherries



Equilibrium price and quantity

In this market for cherries, there is only one price where the total quantity demanded is equal to the total quantity supplied. In Economics, this price is referred to as the **'equilibrium price'**. It is the price where there is neither too much demand relative to supply (excess demand or shortage) nor too much supply relative to demand (excess supply or surplus). When the price of a product is at this equilibrium level, there is no pressure for price to change.

Equilibrium price: the price which leads to the total quantity demanded being equal to the total quantity supplied. There will be no shortage or surplus of the product at this price and the market is in a state of rest.

The **equilibrium quantity** is simply the volume or amount of goods and services that are sold in the market when the price is at its equilibrium level.

When the price of a product is not at equilibrium it will mean that the quantity demanded is not equal to the quantity supplied. This will result in a convergence towards equilibrium over time as markets adjust and price naturally moves towards its equilibrium level.

Disequilibrium in markets - price too low

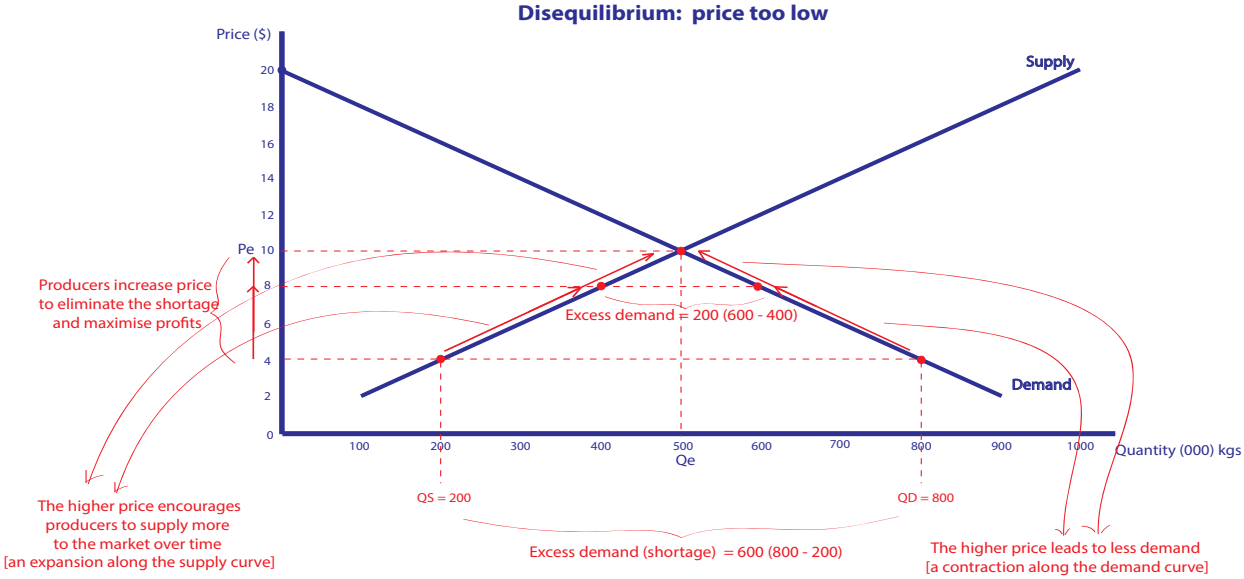
If the price is temporarily below the equilibrium price it will mean that demand will exceed supply (**excess demand**) which results in a **shortage** of the product. This shortage sends a clear signal to producers that the price is too low and that larger profits could be made by increasing the price.

Excess demand = shortage = demand > supply

In fruit markets around many cities, such as the Queen Victoria Market, it is possible that a vendor might start to increase the price of their produce in the middle of the day if it is clear that they are experiencing excess demand, where their produce sells very quickly and there is a real likelihood that they will run out of stock before the close of business. In other markets, it will usually take a longer period of time before the shortages become evident and the price increase will steadily occur over time.

Accordingly, when any market is in a position of excess demand, it means that demand for the product is excessive relative to the supply of the product and we should expect the price to rise over time. In the case of the cherry market, if producers set the price at $4kg, it would clearly represent disequilibrium, with the price being too low. This can be seen in Figure 3.16 below.

Figure 3.16
Disequilibrium: price too low



Disequilibrium to equilibrium
A sequence of events in the case of excess demand

1. Shortages (excess demand) becomes apparent (e.g. 600,000kg of cherries)
2. Producers increase the price (e.g. from $4 to $8)
3. Demand falls (contraction) and supply increases (expansion)
4. Shortage decreases (e.g. from 600,000kg to 200,000kg)
5. Producers continue to raise price (e.g. from $8 to $10)
6. Demand falls again (contraction) and supply increases again (expansion)
7. Shortage no longer exists = equilibrium where a price of $10 is consistent with QD = QS = 500,000

At a price of $4kg, the demand for cherries would be 800,000kg and the supply in markets would only be 200,000kg. An excess demand (or shortage) of 600,000kg of cherries would become evident. In response, producers would raise the price above $4kg, to perhaps $8kg. [It is important to note that producers do not know the exact equilibrium price and will simply be guided by the size and length of the shortage in determining how big the price increase should be.] This increase in price will cause a contraction along the demand curve (as consumers demand less cherries in accordance with the law of demand) and an expansion along the supply curve (as producers are motivated by higher prices and are willing to supply more cherries to the market place over time). However, even at $8kg an excess demand for cherries will persist in the market and producers will eventually raise price further until the shortage is eliminated at a price of $10kg, where the quantity demanded will equal the quantity supplied of 500,000kg of cherries.

In the event of a shortage such as that depicted for the cherry market, it is entirely possible for producers to inadvertently increase the price above the equilibrium price. In this case, the adjustment to equilibrium will be in the opposite direction, as detailed on the next page.

Disequilibrium in markets - price too high

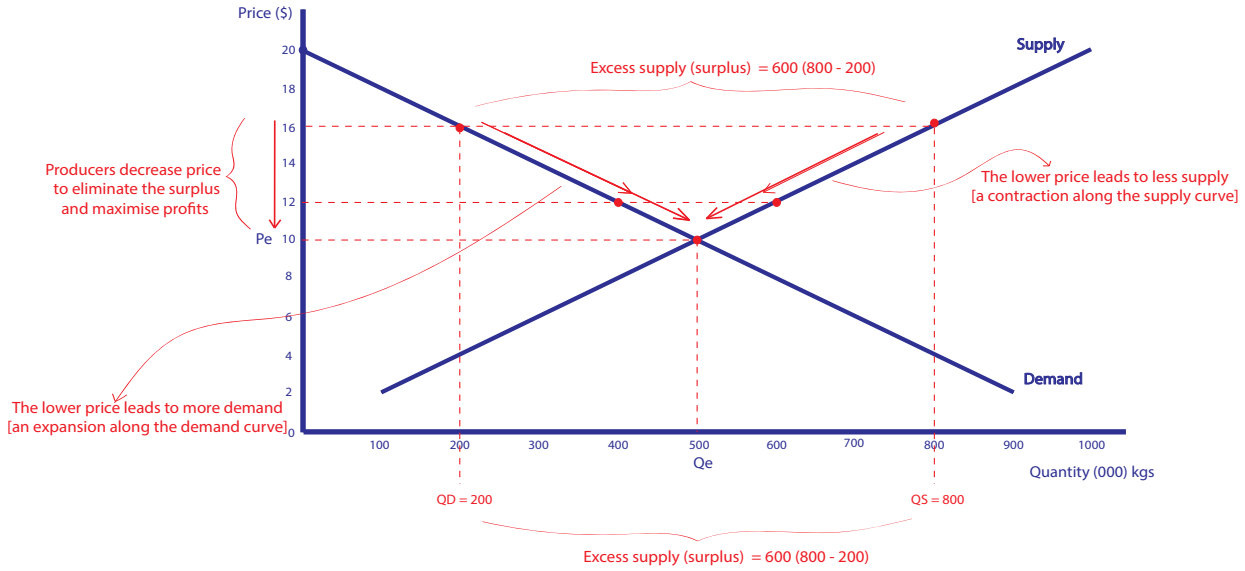
If the price is temporarily above the equilibrium price it will mean that supply will exceed demand (**excess supply**) which results in a **surplus** of the product. This surplus sends a clear signal to producers that the price is too high and that larger profits could be made by decreasing the price in order to eliminate surplus stocks.

Excess supply = surplus = demand < supply

To return to the example of the Queen Victoria Market, it is likely vendors will start to decrease the price of their produce towards the end of the day if it is clear that they are experiencing excess supply, as indicated by their produce not selling quickly enough. This is why some shoppers will attend markets late in the afternoon, in order to take advantage of heavy discounting by sellers keen to avoid holding excess stock.

Accordingly, when any market is in a position of excess supply, it means that demand for the product is too low relative to the supply of the product and we should expect the price to fall over time. In the case of the cherry market, if producers set the price at $16kg, it would clearly represent disequilibrium, with the price being too high. This can be seen in Figure 3.17 below.

Figure 3.17
Disequilibrium: price too high



Disequilibrium to equilibrium
A sequence events in the case of excess supply
1. Surplus (excess supply) becomes apparent (e.g. 600,000kg of cherries)
2. Producers decrease the price (e.g. from $16 to $12)
3. Demand increases (expansion) and supply decreases (contraction)
4. Surplus decreases (e.g. from 600,000kg to 200,000kg) when price is $12
5. Producers continue to reduce price (e.g. from $12 to $10)
6. Demand increases again (expansion) and supply decreases again (contraction)
7. Surplus no longer exists = equilibrium where a price of $10 is consistent with QD = QS = 500,000

At a price of $16kg, the demand for cherries would be 200,000kg and the supply in markets would be 800,000kg. An excess supply (or surplus) of 600,000kg of cherries would become evident. In response, producers would reduce the price below $16kg in order to eliminate the surplus. This decrease in price will cause an expansion along the demand curve (as consumers demand more cherries in accordance with the law of demand) and a contraction along the supply curve (as producers are discouraged by lower prices and will supply fewer cherries to the market place over time). The producers will continue to reduce the price until the surplus is eliminated at a price of $10kg, where the quantity demanded will equal the quantity supplied of 500,000kg of cherries. As before, it is possible for producers to inadvertently decrease the price below the equilibrium price. In this case, the adjustment to equilibrium will be in the opposite direction until equilibrium is achieved at a price of $10kg.

We have already seen that when market prices are not at equilibrium levels, **shortages** (excess demand) or **surpluses** (excess supply) will occur and prices will then adjust over time in order to 'clear' markets. In other words, prices will increase until shortages are eliminated or prices will fall until surpluses no longer exist. We call this **convergence to equilibrium**. The actual speed of any convergence to equilibrium will depend on the specific nature of each market, and the size of any price adjustment will depend on the size of the shortage or surplus.

So once a market is at a state of rest (i.e. in equilibrium), what will cause the market to move into disequilibrium? This will occur when any one or more of the many 'non-price factors' affecting demand or supply cause the demand or supply curves to shift.

Application Exercise 3e: Demand and supply

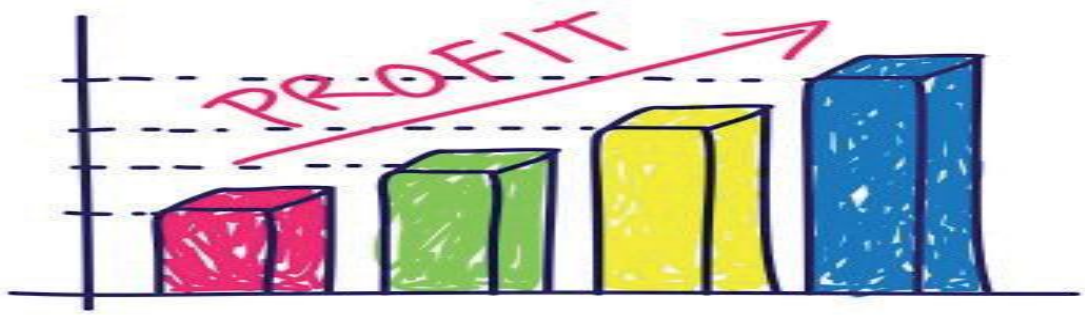
Assume that Charlotte Gray is a farmer in Victoria who is currently devoting 250 acres of her land to blueberry crops, 150 acres to kiwi fruit crops and 100 acres to an olive grove. She has just had a good season and is making plans for the future. Based on recent figures she estimates that the Victorian blueberry market will have the following demand and supply schedules for the coming year.

Blueberry market		
Price per kg ($)	Demand(000)	Supply (000)
4.80	2500	8000
4.50	3000	7500
4.20	3500	7000
3.90	4000	6500
3.60	4500	6000
3.30	5000	5500
3.00	5500	5000
2.70	6000	4500
2.40	6500	4000
2.10	7000	3500
1.80	7500	3000
1.50	8000	2500
1.20	8500	2000
0.90	9000	1500
0.60	9500	1000
0.30	10000	500

Questions/tasks:

1. **Using the Excel programme or in your workbooks, plot the above figures onto a demand and supply graph/ diagram. Ensure that you label the vertical and horizontal axis and the scale is accurate (i.e. ensure that the price and quantity intervals are the same distance apart)**
2. **Determine the likely equilibrium price and quantity and indicate this on the diagram with Pe and Qe.**
3. **Explain why the blueberry market is in disequilibrium if the price is set at $4.20 per kg and highlight the surplus or shortage on the diagram.**
4. **Use the diagram to illustrate how the market returns to equilibrium over time, from the disequilibrium in question 3, highlighting the movements along the curves (contraction/expansion) when the price changes.**
5. **Explain why the blueberry market is in disequilibrium if the price is set at $1.50 per kg and highlight the surplus or shortage on the diagram.**
6. **Use the diagram to illustrate how the market returns to equilibrium over time from the disequilibrium in question 5, highlighting the movements along the curves (contraction/expansion) when the price changes.**

Note: Application exercise 3f will also use the data presented in this scenario. You should leave approximately one page for the completion of additional activities/questions related to Charlotte's farm.



Disequilibrium caused by a shift of the demand curve to the right (an increase in demand)

In Section 3.3 we examined a range of non-price factors that would stimulate demand and shift the demand curve to the right. These factors are summarised below:

- An increase in disposable income
- An increase in the price of a substitute product
- A decrease in the price of a complementary product
- Favourable changes in preferences/tastes
- A decrease in interest rates
- An increase in the size of the population
- Favourable changes in population demographics
- An improvement in consumer sentiment
- Favourable changes made by governments (e.g. more consumer rebates or a tax on substitutes)

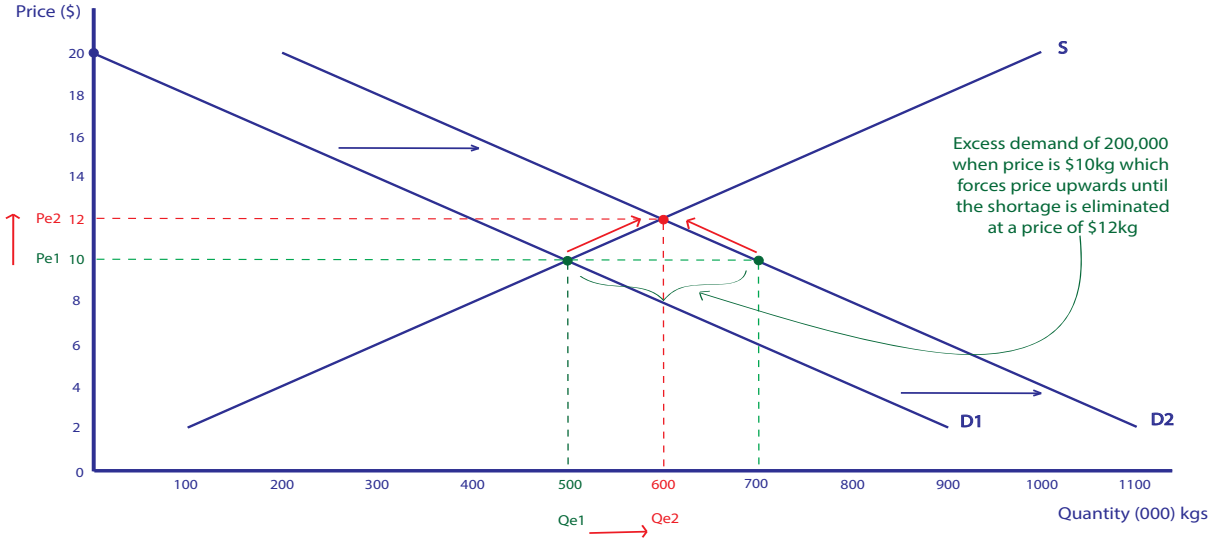
In the case of the cherry market, it was assumed in Section 3.4 that demand increased (by 200,000kg at every price) because of a larger population or a higher price of substitute products, such as strawberries or raspberries. The new demand conditions are repeated in Table 3.8 alongside the original figures for quantity supplied (S1).

Table 3.8: Demand for cherries (kg) increase at every price)

Price per kg($)	D2 (000)	S1 (000)	
20	200	1000	
18	300	900	
16	400	800	
14	500	700	
12	600	600	New equilibrium
10	700	500	Excess demand (shortage) of 200,000kg
8	800	400	
6	900	300	
4	1000	200	
2	1100	100	

The increase in demand (from D1 to D2) will initally cause the market to be in disequilibrium. A price of $10kg will now be too low and the demand for cherries (700,000kg) will exceed supply (500,000kg) resulting in a shortage of 200,000kg (700,000kg less 500,000kg). As discussed earlier, this excess demand for the product will result in an increase in price (to $12kg), which in turn results in a contraction of demand (from 700,000kg to 600,000kg) and an expansion of supply from (500,000kg to 600,000kg). The overall impact that an increase in demand will have on equilibrium price and quantity is summarised in Figure 3.18.

Figure 3.18
Demand shifting to the right and impact on equilibrium price and quantity



An increase in demand from D1 to D2 results in a higher equilibrium price and quantity

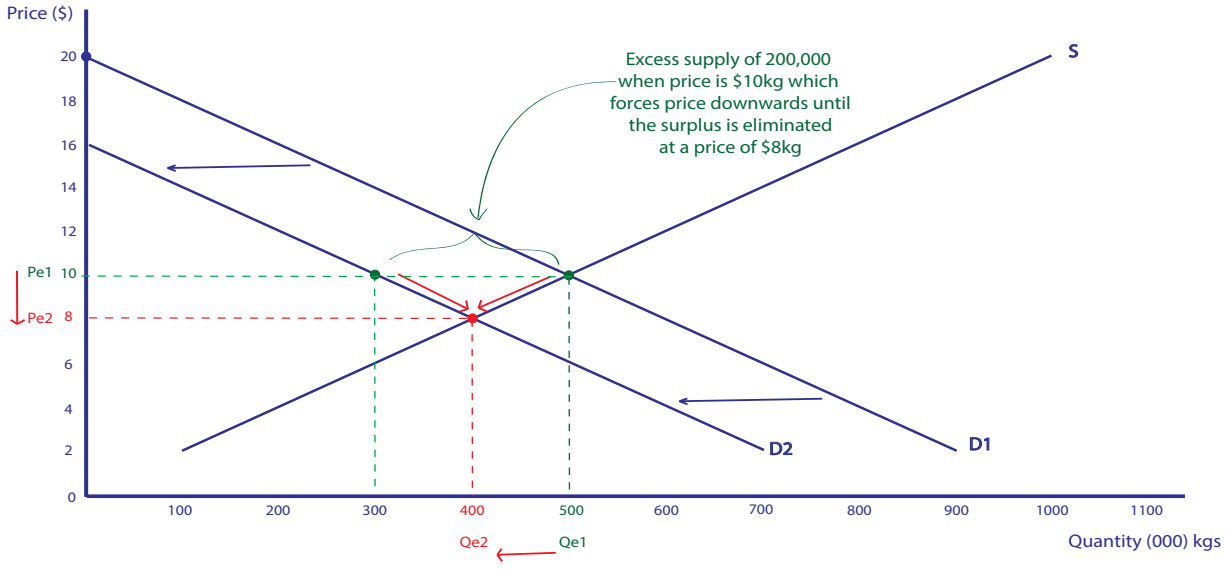
Disequilibrium caused by a shift of the demand curve to the left (a decrease in demand)

If the demand for cherries decreased because of non-price factors, such as lower average disposable incomes or a change in tastes away from cherries to other fruits, the impact on the market will be the opposite to that shown in Figure 3.18. The new demand conditions are repeated in Table 3.9 alongside the original figures for quantity supplied (S1).

Table 3.9: Demand for cherries (kg) decrease at every price)			
Price per kg($)	D2 (000)	S1 (000)	
20	0	1000	
18	0	900	
16	0	800	
14	100	700	
12	200	600	
10	300	500	Excess supply (surplus) of 200,000kg
8	400	400	New equilibrium
6	500	300	
4	600	200	
2	700	100	

The decrease in demand (from D1 to D2) will initally cause the market to be in disequilibrium. A price of $10kg will now be too high and the demand for cherries (300,000kg) will be below the supply (500,000kg) resulting in a surplus of 200,000kg (500,000kg less 300,000kg). This excess supply of the product will result in a decrease in price (to $8kg), which in turn results in an expansion of demand (from 300,000kg to 400,000kg) and a contraction of supply from (500,000kg to 400,000kg). The overall impact on equilibrium price and quantity is summarised in Figure 3.19.

Figure 3.19
Demand shifting to the left and impact on equilibrium price and quantity



A decrease in demand from D1 to D2 results in a lower price and quantity

Disequilibrium caused by a shift of the supply curve to the right (an increase in supply)

In Section 3.6 we examined a range of non-price factors that would stimulate supply and shift the supply curve to the right. These factors are summarised below:

- Lower costs of labour or capital
- Less expensive inputs costs (such as materials)
- Improvements in technology
- Higher productivity growth
- An improvement in climatic conditions
- A lower regulatory burden imposed by governments
- Lower government taxes or a reduction in subsidies

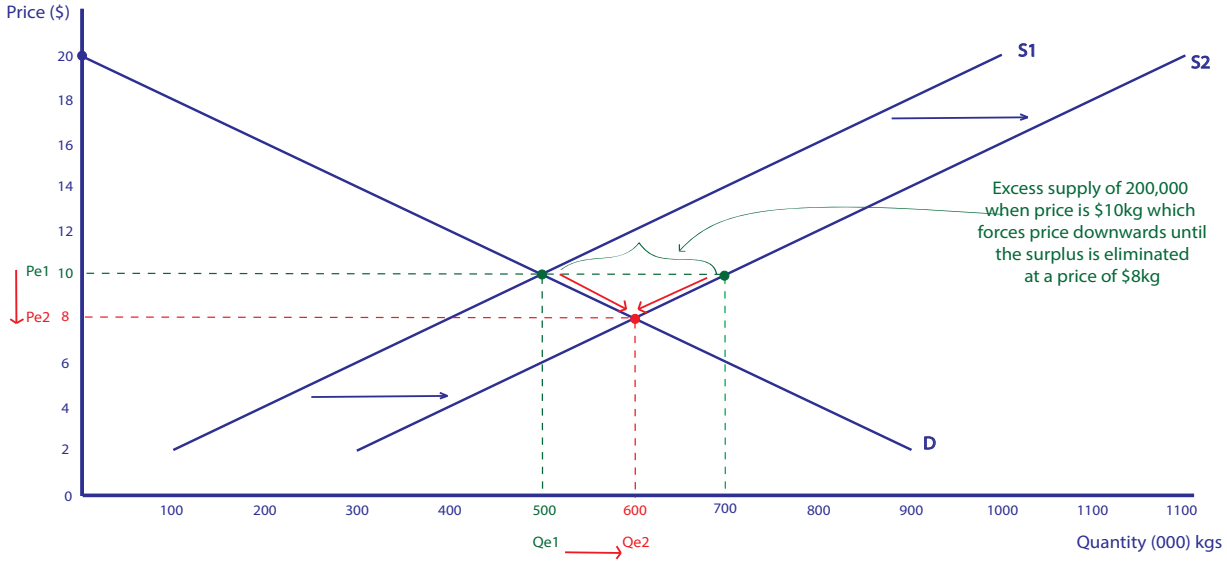
In the case of the cherry market, it was assumed in Section 3.7 that supply increased (by 200,000kg at every price) because of a government subsidy to cherry growers or technological advances that resulted in growth in productivity on the farm. The new supply conditions are repeated in Table 3.10 alongside the original figures for quantity demand (D1).

Table 3.10: Supply of cherries (kg) increase at every price

Price per kg($)	D1 (000)	S2 (000)	
20	0	1200	
18	100	1100	
16	200	1000	
14	300	900	
12	400	800	
10	500	700	Excess supply (surplus) of 200,000kg
8	600	600	New equilibrium
6	700	500	
4	800	400	
2	900	300	

The increase in supply (from S1 to S2) will initally cause the market to be in disequilibrium. A price of $10kg will now be too high and the supply of cherries (700,000kg) will be above the demand (500,000kg) resulting in a surplus of 200,000kg (700,000kg less 500,000kg). This excess supply of the product (or surplus) will result in a decrease in price (to $8kg), which in turn results in an expansion of demand (from 500,000kg to 600,000kg) and a contraction of supply from (700,000kg to 600,000kg). The overall impact that an increase in supply will have on equilibrium price and quantity is summarised in Figure 3.20.

Figure 3.20
Supply shifting to the right and impact on equilibrium price and quantity



An increase in supply from S1 to S2 results in a lower price and higher quantity

Disequilibrium caused by a shift of the supply curve to the left (a decrease in supply)

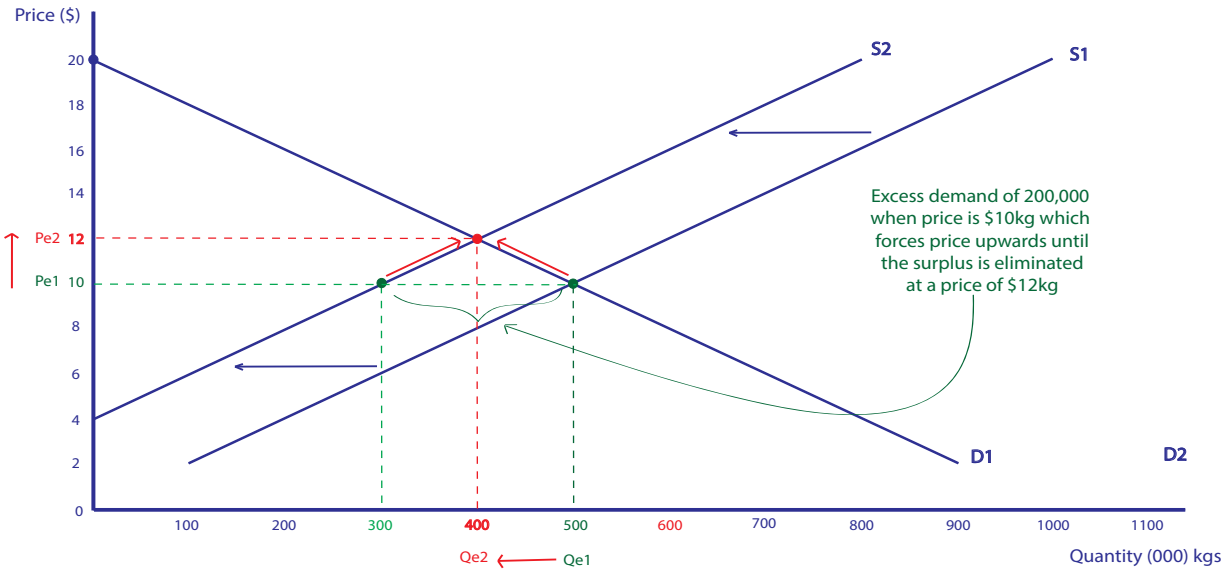
If the supply of cherries decreased because of non-price factors, such as a natural disaster or more costly government regulations, the impact on the market will be the opposite to that shown in Figure 3.20. The new supply conditions are repeated in Table 3.11 alongside the original figures for quantity demanded (D1).

Table 3.11: Supply of cherries (kg) decrease at every price

Price per kg($)	D1 (000)	S2 (000)	
20	0	800	
18	100	700	
16	200	600	
14	300	500	
12	400	400	New equilibrium
10	500	300	Excess demand (shortage) of 200,000kg
8	600	200	
6	700	100	
4	800	0	
2	900	0	

The decrease in supply (from S1 to S2) will initally cause the market to be in disequilibrium. A price of $10kg will now be too low and the supply of cherries (300,000kg) will be below the demand (500,000kg) resulting in a shortage of 200,000kg (500,000kg less 300,000kg). This excess demand of the product will result in an increase in price (to $12kg), which in turn results in a contraction of demand (from 500,000kg to 400,000kg) and an expansion of supply from (300,000kg to 400,000kg). The overall impact that a decrease in supply will have on equilibrium price and quantity is summarised in Figure 3.21.

Figure 3.21
Supply shifting to the left and impact on equilibrium price and quantity



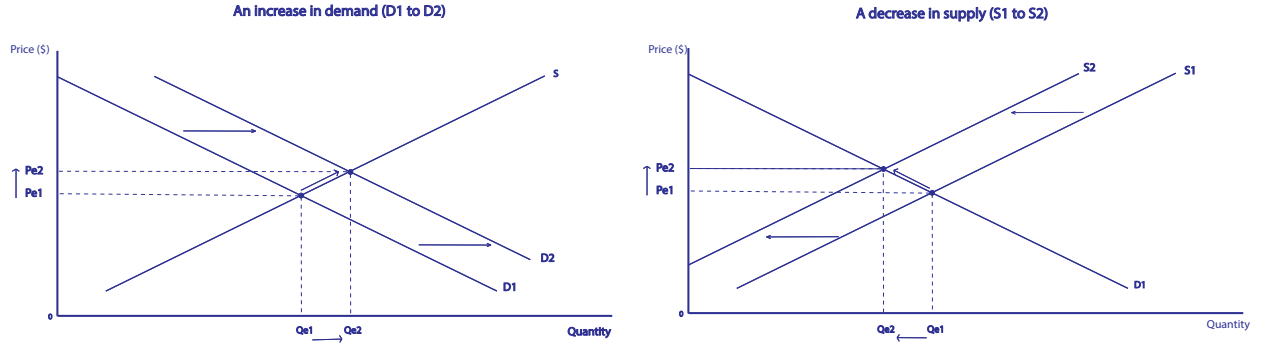
A decrease in supply from S1 to S2 results in a higher price and lower quantity

You should notice that shifts of the demand or supply curves push markets into disequilibrium that is either characterised by an **excess demand (shortages)** or an **excess supply (surpluses)**. It is this imbalance between the demand and supply that creates pressure for prices to converge towards equilibrium. Overall, markets at any time will either be in a state of equilibrium or disequilibrium, where disequilibrium will have been caused by a shift to the left or right of the demand or supply curves (loosely speaking, increases or decreases of demand or supply). In each case, the market starts in equilibrium, then the market is disturbed by a change (or shift) in demand or supply, which then results in the existing price (Pe1) being either too low or too high. The market is then no longer in equilibrium, as a price that is too high reflects an excess supply (i.e. a surplus) and a price that is too low reflects an excess demand (i.e. a shortage).

When an excess supply develops, normal market forces will force the price downwards until the price eventually rests at its new equilibrium price of Pe2. Similarly, when an excess demand develops, normal market forces will force the price upwards until the price eventually rests at Pe2 once more.

Figures 3.22 and 3.23 summarise how shifts of the demand or supply curve will impact on equilibrium price and quantity in markets.

Figure 3.22
Shifts of curves causing price to rise

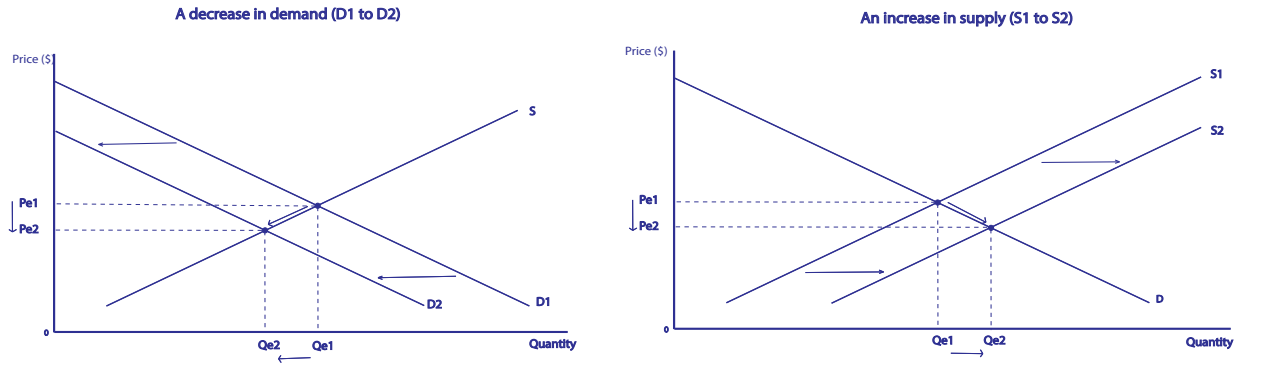


[An increase in demand from D1 to D2 results in a higher equilibrium price and quantity]

[A decrease in supply from S1 to S2 results in a higher price and lower quantity]

In these two examples, the shift of the demand/supply curves push the market into disequilibrium where the original price (Pe1) is too low and excess demand (shortages) develops. Price automatically adjusts (i.e. increases) over time until equilibrium is restored at Pe2.

Figure 3.23
Shifts of curves causing price to fall



[A decrease in demand from D1 to D2 results in a lower price and quantity]

[An increase in supply from S1 to S2 results in a lower price and higher quantity]

In these two examples, the shift of the demand/supply curves push the market into disequilibrium where the original price (Pe1) is too high and excess supply (surplus) develops. Price automatically adjusts (i.e. decreases) over time until equilibrium is restored at Pe2.

Review questions 3.8

1. Define 'equilibrium price' and 'equilibrium quantity'.
2. Distinguish equilibrium from disequilibrium.
3. Distinguish excess demand (or shortage) from excess supply (or surplus).
4. Identify whether prices will increase or decrease if a market is in a state of excess demand.
5. Identify whether prices will increase or decrease if a market is in a state of excess supply.
6. Explain how the market returns to equilibrium over time if price is too high and there is excess supply.
7. Explain how the market returns to equilibrium over time if price is too low and there is excess demand. Use a demand and supply diagram to illustrate.
8. Explain what is meant by 'convergence' to equilibrium.
9. Describe how a shift to the right of the demand curve will impact on equilibrium price and quantity. Use a demand/supply diagram to illustrate.
10. Describe how a shift to the left of the demand curve will impact on equilibrium price and quantity. Use a demand/supply diagram to illustrate.
11. Describe how a shift to the right of the supply curve will impact on equilibrium price and quantity. Use a demand/supply diagram to illustrate.
12. Describe how a shift to the left of the supply curve will impact on equilibrium price and quantity. Use a demand/supply diagram to illustrate.

Application Exercise 3f: Shifts of demand and supply curves

Since the release of a favourable government report about the health giving properties of blueberries, there has been a surge in demand by 100%. It is estimated that the new demand schedule will resemble the one shown below, where Demand 2 reflects the new demand, following the release of the report. The blueberry growing industry has also been buoyed by the development of new fertilisers and insecticides that boost the productivity of the land by 50%, helping to reduce costs of production per unit. Charlotte now anticipates a bumper crop in the year ahead. It is estimated that the supply schedule will resemble the following, where Supply 2 reflects the new supply, following the changes.

Blueberry market				
Price per kg ($)	Demand 1 (000)	Demand 2 (000)	Supply 1 (000)	Supply 2 (000)
4.80	2500	5000	8000	12000
4.50	3000	6000	7500	11250
4.20	3500	7000	7000	10500
3.90	4000	8000	6500	9750
3.60	4500	9000	6000	9000
3.30	5000	10000	5500	8250
3.00	5500	11000	5000	7500
2.70	6000	12000	4500	6750
2.40	6500	13000	4000	6000
2.10	7000	14000	3500	5250
1.80	7500	15000	3000	4500
1.50	8000	16000	2500	3750
1.20	8500	17000	2000	3000
0.90	9000	18000	1500	2250
0.60	9500	19000	1000	1500
0.30	10000	20000	500	750

Questions/tasks:

1. Plot the new demand curve onto the demand and supply graph/diagram prepared in Application exercise 3e. Alternatively, draw up a new D/S diagram plotting both demand curves (D1 and D2) and the supply curve (S1) for blueberries.
2. Determine the new equilibrium price and quantity for blueberries following the increase in demand from D1 to D2.
3. Outline two other factors that could cause the demand for blueberries to increase from D1 to D2.
4. Explain what would happen in the blueberry market if the price was slow to rise from its initial equilibrium level of $3.15 per kg and outline how the normal operation of the market will resolve this problem over time.
5. Plot the new supply curve (S2) onto the demand and supply graph/diagram and determine the equilibrium price and quantity. [You should be using D2 and S2]
6. Explain how the blueberry market adjusts from its old equilibrium where D2 intersects with S1 to its new equilibrium where D2 = S2. Refer to excess demand (shortage) or excess supply (surplus).
7. Outline whether the blueberry market will experience more demand following the improvement in productivity on blueberry farms. Use the D/S diagram to support your argument.
8. Explain what would happen in blueberry markets if the price was slow to fall from its previous equilibrium level of $4.20 per kg and outline how normal market pressures will resolve this problem over time.
9. Outline two factors that could cause the supply curve for blueberries to shift to the left in the future.
10. Discuss how Charlotte's blueberry production might be affected in the future if the prices for olives in export markets increased by 200%.

Application Exercise 3g: Market for petrol-powered cars

Choose between 5 and 10 of the situations below. For each situation, describe what is likely to happen to the **equilibrium price of petrol-powered motor cars**. In each answer, ensure that you accurately describe how the factor causes the market to be in disequilibrium and then how the market converges (moves) to its new equilibrium price. The first one has been completed for you.

Factor	How it changes demand or supply	How it results in disequilibrium	How the market returns to equilibrium
Disposable income of most households increase	Overall, there will be an increase in the demand for motor cars because household purchasing power increases	Over time, there will be an excess demand for motor cars at the original price	Producers will eventually raise the price of motor cars until the shortage is eliminated
Motor vehicle manufacturers are forced to pay higher prices for robotics used on the assembly line			
Consumer preferences switch away from petrol-powered cars and towards less polluting forms of transport			
There are significant improvements in battery technology that enables electric cars to run without recharge for longer periods of time			
The price of a ticket on public transport falls to very low levels			
The price of petrol increases from $1.10 to $5.00 per litre			
The cost of materials, such as plastics and steel, increase to high levels			
Consumer confidence falls to low levels			
The price of electric cars fall significantly			
Australia enters a period of climatic change where the number of wet days falls by 90%			
Government regulations change to prevent young people getting a driving licence until they are 21			
The costs of labour increase for manufacturers			
Interest rates increase to very high levels, impacting on the discretionary income of households			
The government reduces income taxes to low levels			
Productivity at the manufacturing plants increases due to advances in technology			
State governments reduce payroll taxes			
Increases in the costs of complying with government laws and regulations			
The federal government reduces subsidy support to motor vehicle manufacturers			
There is global shortage of computer chips that are used in most new cars			
The council allows electric scooters to be used on roads and footpaths			
The price of ebikes falls by 40%			

An alternative way of illustrating the impact of changes in the costs of production

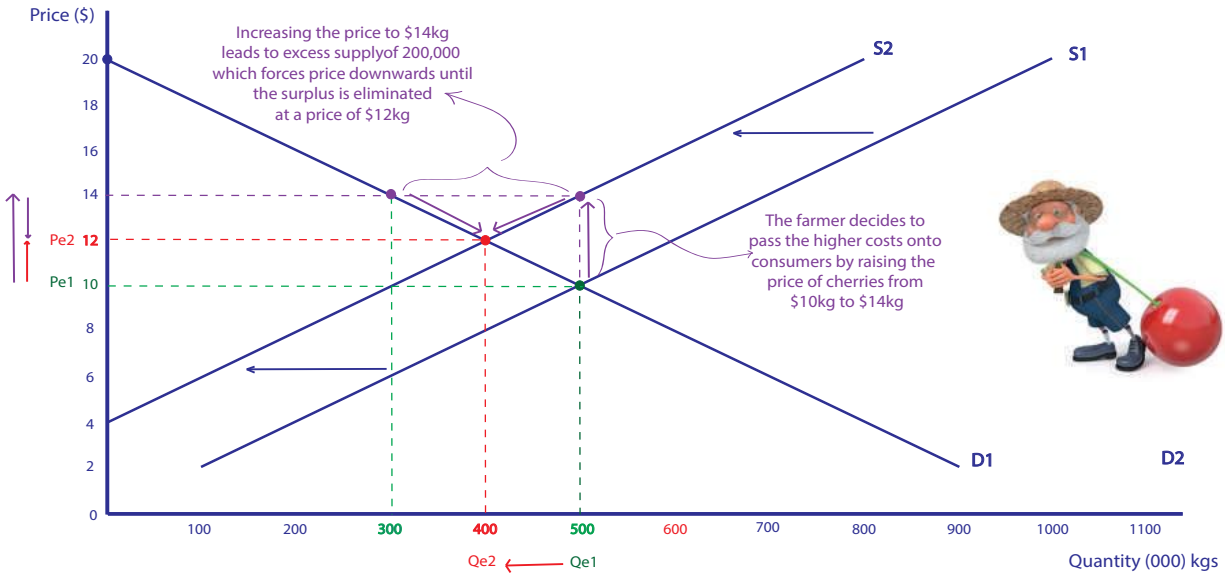
Figures 3.20 and 3.21 illustrated how the market adjusts after a shift of supply to the right and the left. For example, a shift to the left of the supply curve (caused by a natural disaster or more burdensome government regulations) results in the pre-existing price being too low to clear the market. As a consequence, excess demand (a shortage) develops over time and price rises until the shortage is eliminated at the new higher equilibrium price.

Study tip

In an assessment task or exam, the use of either approach to illustrate an increase in the costs of production (and shift of the supply curve to the left) should be acceptable.

However, in some situations, producers who are faced with higher costs of production won't necessarily respond by reducing supply to the market in the first instance. Instead, faced with higher costs (e.g. higher labour costs or an increase in indirect taxes imposed by the government), producers will typically increase the price of the product in order to protect their profit margin (the difference between the price of a product and its cost). The higher price will then result in market disequilibrium characterised by excess supply – because the higher price causes consumers to demand less (a contraction of demand) while producers have not yet responded by reducing supply. This can be seen with reference to Figure 3.24 below.

Figure 3.24
Higher costs of production (e.g. indirect tax) and impact on equilibrium price and quantity



The higher costs of production ultimately shifts the supply curve from S1 to S2, resulting in a higher equilibrium price and lower equilibrium quantity

At the initial equilibrium price of $10 per kg, assume that the costs of labour and capital for cherry producers increases by $4 per kg. Instead of reducing supply to the market immediately, the farmers decide to pass the higher costs onto consumers by raising the price of cherries from $10kg to $14kg. At this new higher price, an excess supply of 200,000kg of cherries will develop because consumers reduce their demand (contraction) from 500,000kg to 300,000kg, while farmers continue to supply 500,000kg (as they wait to see how consumers respond to the higher price). Over time, this surplus will be eliminated as the farmers reduce the price of cherries to clear the market. The lower price leads to an expansion of demand (consumers are motivated by lower prices) and a contraction of supply (producers are less motivated to supply to the market at lower prices). The price will continue to fall until equilibrium is restored at a price of $12kg.

Study tip

While it is not required knowledge for the VCE Economics course it is interesting to learn that the extent of the final increase in price that occurs in response to an increase in production costs depends on the price elasticity of demand (i.e. how responsive consumers are to a change in price). For example, a very low price elasticity of demand (reflected by a very steep demand curve) will mean that the final price increases by approximately the same amount as the increase in production costs. This results in consumers being forced to pay (close to) the entire increase in production costs. The reverse is true if the price elasticity of demand is high (i.e. the demand curve very flat).

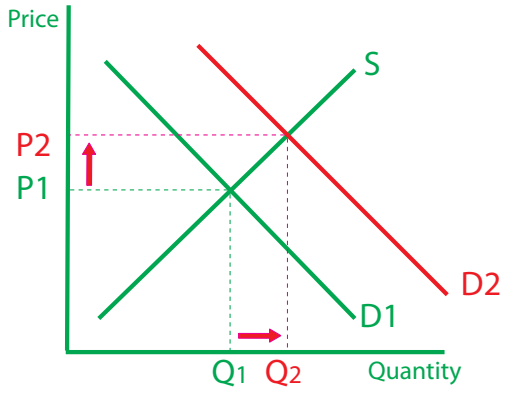
Overall, the higher costs of production have resulted in a higher equilibrium price and lower equilibrium quantity, which is reflected in a shift of the supply curve to the left. Ultimately we end up with the same result as that depicted in Figure 3.21, except the dynamics of adjustment from one equilibrium to another are different.

3.9 The role of relative prices in the allocation of resources

The process of changes in relative prices and its impact on how resources are used in the economy is referred to as the **market mechanism** or **price mechanism.**

The price mechanism describes how the forces of demand and supply influence relative prices of goods and services which then ultimately determines the way productive resources (such as labour and capital) are allocated in the economy.

Whenever prices change in markets, it sends powerful signals to economic agents – in particular producers and consumers. Producers are motivated by higher **relative prices** and consumers by lower relative prices. Movements in these relative prices will then result in changes to production in the economy and a reallocation of resources, such as labour, capital and natural resources.



More resources are allocated to the production of this product as the qty produced increases from Q1 to Q2

A higher relative price of a product in the market place might reflect an increase in demand. This higher price will then send a signal to suppliers that increased profit opportunities might exist if they devote some of their resources into those areas experiencing higher demand. For example, a shift to the right of the demand curve for a product is highlighted on the D/S diagram to the right. As you can see, an increase in demand leads to an increase in the price of the product (relative to other products). This then leads to an increase in resources allocated to production of the product as the quantity produced increases from Q1 to Q2.

Notice that reference has been made to relative prices and not merely prices. This is an important distinction in economics because it is changes in relative prices that provide the key to why consumers and producers will change their buying and selling decisions. For example, assume that a business can supply kites and flags. A higher market price of kites might attract a larger supply of kites to the market by the business. However, a higher price of kites might simply be occurring because of inflation, with many (or all) products experiencing similar price rises. If we assume that all other prices increased by the same amount, then the price of kites has indeed risen, but the relative price of kites (the price of kites relative to other products) has remained the same. There will be no incentives for producers or entrepreneurs to allocate more resources to kite production and away from producing other products.

It is even possible for the relative price of kites to fall when its price increases - providing other prices rise by a greater amount. In this case, resources are likely to be allocated away from kite production (despite its higher price) because it is relatively less attractive when compared to the prices received for other products. To illustrate, Table 3.12 below compares the price changes that are experienced in the market for both kites and flags. Three separate scenarios are explored and in each scenario, the price of kites has risen by the same amount of $10, suggesting that it might be a more profitable pursuit for the business that can supply both products.

Table 3.12

Scenario	Increase in the Price of **kites** ($)	Increase in the Price of **flags** ($)	Increase in the **relative price** of kites/ flags	Increase in the **relative price** of flags/ kites
Scenario 1	10	5	10/5 = 2	5/10 = 0.5
Scenario 2	10	10	10/10 = 1	10/10 = 1
Scenario 3	10	20	10/20 = 0.5	20/10 = 2

However, it is only in Scenario 1 where producers are more likely to allocate resources to kite production – because it is the only scenario where the **relative price** of kites has increased. In Scenario 2, the relative price of kites has remained unchanged because the price of flags also increased by $10. However, in Scenario 3, the relative price of kites has fallen because the price of flags has increased by twice as much. This means that the relative price of flags has increased and resources are likely to be allocated away from kite production and towards flag production.

Consumers are also motivated by changes to relative prices and these changes in relative prices lead to changes in consumption, production and the allocation of resources. Assume that the relative price of kites increased not because of an increase in demand, but instead as a result of an increase in the costs of production for kite producers. Consumers

will see that the relative price of a substitute product (perhaps a flag) has fallen and some consumers might demand flags instead of kites. This therefore results in a reallocation of resources from kite production to flag production.

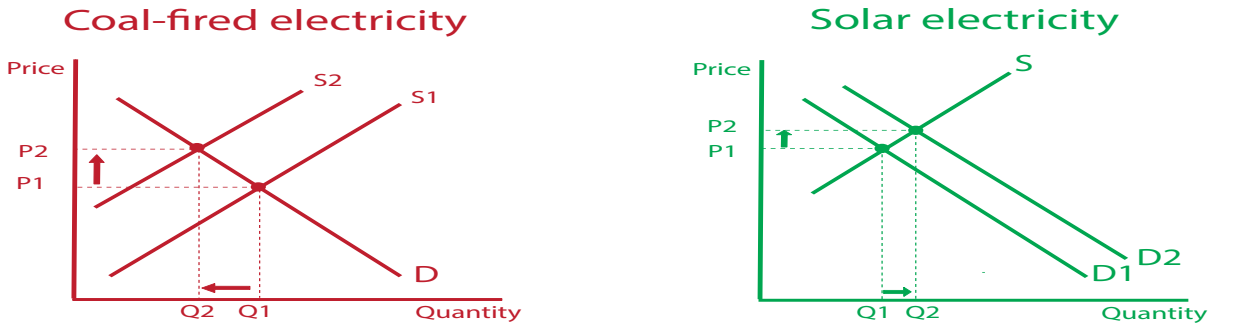
The obvious question is whether a higher relative price for a product leads to more or less resources being allocated to it. The answer is that it all depends on what has caused the relative price to increase. If it has been caused by higher demand then more resources will be allocated to it. If it has been caused by less favourable supply conditions then fewer resources are likely to be allocated to it. The point to note is that the price change sends a signal to producers, who will then investigate the cause of the price change and allocate resources accordingly.

Common examples of the power of relative prices in action relate to movements in agricultural prices. For example, a farmer producing guavas and bananas will see a higher price of bananas as a signal to dedicate fewer of his resources (such as land, machinery and labour) to the production of guavas and more to bananas. Alternatively, the farmer may notice that the price of guavas has fallen significantly. This means that the **relative price** of bananas has increased, again providing a signal to the farmer that more resources should be allocated to banana production.

We now know how the market converges to its new equilibrium price and quantity, and the end result is simply a higher price and quantity sold on the market. The increased quantity leads to more production which ultimately requires more labour, land, capital and/or entrepreneurial resources to be allocated to the production of this good in the market. However, the equally interesting question is: where do the resources come from?

The answer depends on a host of factors, such as the state of the economy and/or the reason for the increased demand in the first place. For example, the increased demand for the product may be occurring because the economy is recovering from a downturn or a recession (e.g. the COVID-19 induced recession of 2020), such that the demand for most products is increasing across the board. In this case, the resources flowing into the production of all of these products may have been previously unemployed or underemployed, such as unemployed labour and/or idle capital. Alternatively, the increased demand might be coming from a substitute product (e.g. because its price has risen), which results in resources moving from one market to another. In some cases, resources will come from a totally different industry altogether.

When using demand and supply diagrams to demonstrate the operation of the market mechanism and relative prices, it is useful to place two D/S diagrams side by side. This is done below for coal-fired electricity and solar electricity markets, following the possible re-introduction of a carbon tax (or some other form of carbon pricing).



The carbon tax increases costs for coal-fired electricity producers, raises prices and leads to fewer resources being allocated to this form of electricity production

Consumers substitute out of the 'relatively' more expensive coal fired electricity and into the 'relatively' cheaper solar energy. The higher price of solar energy attracts more resources into its production.

NOTE: Despite the price of solar electricity increasing, its relative price has still fallen. It is this lower relative price of solar electricity that effectively triggers the re-allocation of resources from 'dirty' energy production to clean energy production.

At their original (pre-carbon tax) prices, the relative price of coal-fired electricity was fairly low and the relative price of solar fairly high. The government wanted to reduce the consumption and production of energy from 'dirty' sources (i.e. coal) and increase the production and consumption of energy from 'greener' sources (i.e. solar electricity). The carbon tax was designed to achieve this by changing relative prices.

The tax increased the costs of production for coal-fired electricity producers which pushes their supply curve to the left, raising the price, reducing the demand and lowering production volumes. The fall in demand occurs because consumers restrict their use of electricity and also substitute into greener forms of energy due to the fact that its 'relative price' is now lower (i.e. relative to the price of dirty, coal-fired energy!). Accordingly, the demand curve for solar energy shifts to the right, exerting upward pressure on the price of solar, and providing producers with greater incentive to invest in

greener energy production. Resources are therefore allocated away from coal-fired electricity and towards solar energy.

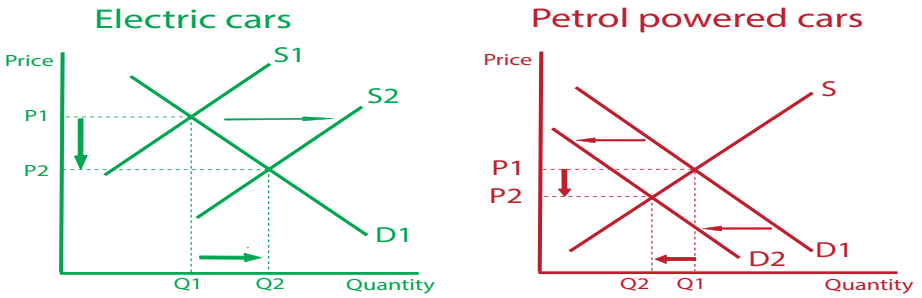
The repeal of the carbon tax in 2014 resulted in a reversal of the above process, with the relative price of 'dirty energy' falling and resources flowing back into the industry. This is a contemporary example of the price mechanism in action and an illustration of how changes to relative prices determine the allocation of resources. In summary:

- a higher relative price of coal-fired electricity discourages consumption and production of this product;
- a lower relative price of solar (relative to coal-fired electricity) attracts demand; and
- a higher demand for solar increases the relative price (relative to other products) which attracts greater production over time.

Changes to relative prices occur on a daily basis in all market capitalist economies around the world and governments use their power to levy indirect taxes (and provide business subsidies) to influence relative prices and achieve a more efficient allocation of resources. Common examples include excise duties on fuel, tobacco and alcohol as well as the alcopops tax and luxury car tax. The use of demand and supply curves helps us to analyse the dynamics of markets and assists in the accuracy of predictions about the way markets are likely to respond to various changes in the economy.

Another example of how changes to relative prices impact on the allocation of resources relates to the technological advances that continue to be made in the production of electric vehicles. While the proportion of electric cars on Australian roads is small, sales growth is accelerating at a rapid pace in line with advances in technology that have helped to reduce the price of electric cars relative to other cars in the market place. This includes the huge developments that have occurred in the lithium-ion battery sector, where a car battery can store increasing volumes of energy/electricity and make it possible to travel longer distances without the need to attend a re-charging station .

These advances in technology improve supply side conditions for producers (shifting the supply curve to right) and enables them to reduce the price of electric cars. This lower relative price sends a signal to consumers that an alternative (more environmentally friendly) mode of transport is a more viable substitute than before. They therefore increase their demand for electric cars (expansion along demand curve) and reduce their demand for petrol powered cars (shifting the demand curve for these cars to the left). Manufacturers of petrol powered cars will respond to the lower demand and price by diverting resources away from their production, such as closing down some production facilities, making labour redundant and/or reallocating some of their resources to the research/development and production of electric cars. This is precisely what has occurred globally, with the major MV manufacturers devoting part of their production efforts to electric (or hybrid) vehicles. The change in relative prices and the impact on resource allocation within the motor vehicle sector are highlighted in the diagram below.



NOTE: Despite the price of petrol powered cars decreasing, its relative price has risen when compared to electric cars. [In other words, the price of electric cars has fallen by more than the price of petrol powered cars.] It is this increase in the relative price of petrol powered cars (i.e. the lower relative price of electric cars) that has effectively triggered the re-allocation of resources to the production of more environmentally friendly motor vehicles.

Australia's experience with COVID-19 since 2020 has seen numerous examples of changes in relative prices leading to a reallocation of resources to the production of certain goods and services. For example, early in the pandemic, the huge surge in demand for personal protective equipment (including face masks) and personal hygiene products (such as hand sanitiser) resulted in a higher price for these products, which effectively meant that the relative price of other products fell. This higher relative price acted as a signal for profit maximising producers to pivot their production

facilities towards the manufacturing of products like face masks and hand sanitiser. For example, some clothing manufacturers reallocated some of their resources (e.g. labour and capital) towards the production of face masks and, similarly, some producers of cleaning products and alcohol reallocated resources towards the production of hand sanitiser. The pandemic also resulted in a change in consumer preferences away from high density city living (where there is a higher risk of infection) and towards lower density living in rural and regional areas. This resulted in a higher price of country (regional) properties relative to those in the Melbourne metropolitan region as the demand for rural properties accelerated greatly. In addition, the greater preference for low density living also resulted in a lower demand for, and price of, high-rise apartments. These changes in relative prices necessarily led to a reallocation of resources. For example, more resources flowed to the production (e.g. construction) of rural properties and/or the services provided by rural real estate agents and fewer resources flowed to the production of high-rise apartments (or the services provided by those operating in this sector).

Review questions 3.9

1. Define the terms 'price mechanism' and 'relative prices'.
2. Assume that the price of a product increases. Explain how its relative price can still fall.
3. Discuss how an increase in relative prices might change the allocation of resources in an economy.
4. Explain how a higher relative price of a product might actually lead to (or reflect) fewer resources being allocated to its production. Use demand and supply diagrams to illustrate your response.
5. Explain how a carbon tax (or carbon price) may lead to more resources being allocated to the production of solar panels. Use demand and supply diagrams to illustrate your response.
6. Explain how advances in technology in the production of electric cars have changed the allocation of resources.
7. Describe how the government can use its control of indirect taxes and subsidies to influence the allocation of resources in Australia's market based economy. Use demand and supply diagrams to illustrate your response.

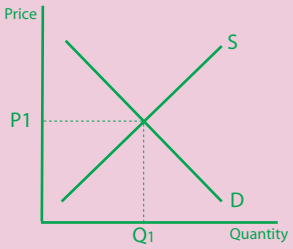
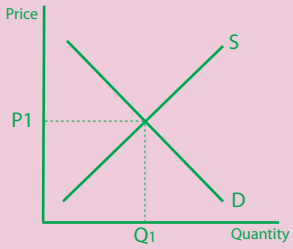
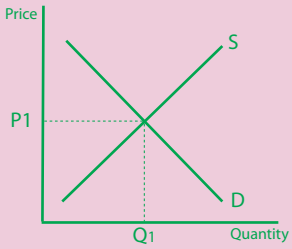
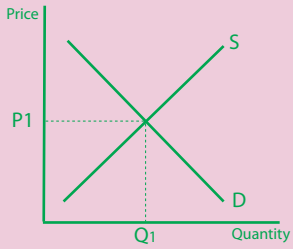
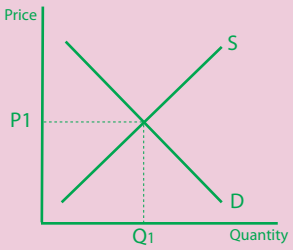
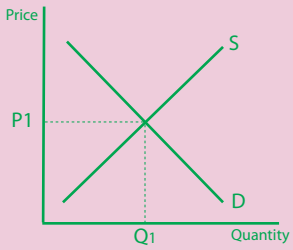
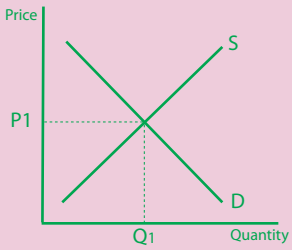
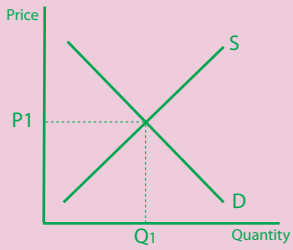
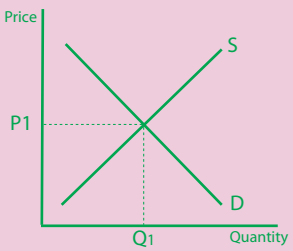
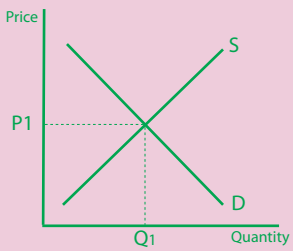
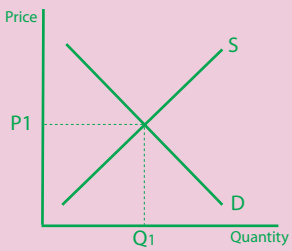
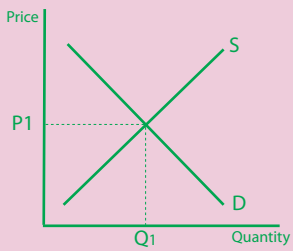
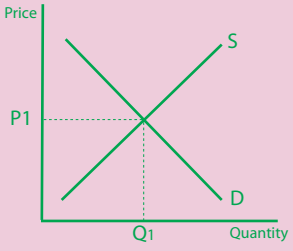
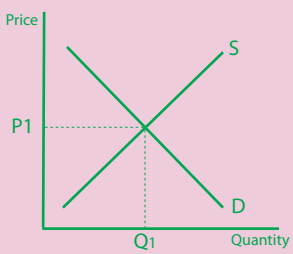
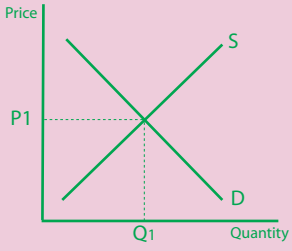
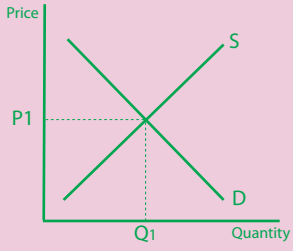
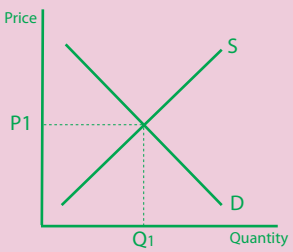
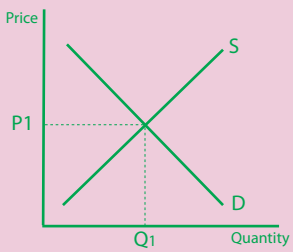
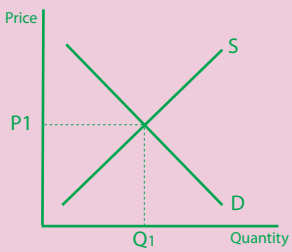
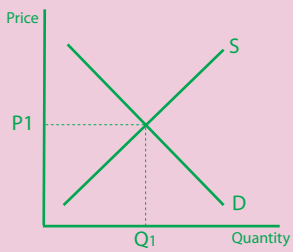
Application Exercise 3h

In your exercise books or on your laptop, set up a table across the page (landscape) with the same headings as those in the table below. For each of the situations, outline what is likely to happen to the relative price of each product and discuss how the resources (such as labour and capital) are likely to be affected (i.e. re-allocated) in response to the changed market conditions. The first one has been completed for you.

Market for	Situation	Change in relative price	Movement of resources such as labour and capital
Cigarettes	The government bans branding on cigarette packets	Decrease	Decrease in demand for cigarettes leads to decrease in price. Resources move out of the tobacco manufacturing industry because producers will seek to take advantage of the higher 'relative price' of other products
Coca Cola	The price of Pepsi decreases by a huge amount (e.g. by 50%) due to higher productivity at Pepsi and lower production costs		
Iceberg lettuce	East coast floods destroy lettuce plantations		
Fast food	A government report condemning fatty foods is released and reported in the mainstream press		
Petrol	Sanctions imposed on Russia result in a reduced supply of oil to global markets		
Housing	Australian borders re-open to migrants in late 2021		
Beer	A report is released that claims excessive beer consumption destroys brain cells		
iPads	There are reports that Apple exploits workers in its manufacturing facilities overseas		
Illicit drugs	The government increases the penalties for those in possession of illicit drugs		
Wine	Europe develops a real taste for Australian wines		
Motor vehicles	Volkswagen and Mitsubishi are found guilty of cheating emissions testing on a range of vehicles		
Face masks	The government mandates the wearing of face masks during the height of COVID-19		
Second hand cars	There is a shortage of computer chips reducing the supply of new cars in 2022		
Coffee	There is a worldwide shortage of coffee beans in 2022		

Application Exercise 3i

Indicate how the market will change (i.e. movements in price and quantity) for each scenario below and provide an indication of how resources are likely to be 'reallocated' in each scenario.

			
Water tanks a $500 rebate given to households installing water tanks	**Rental cars** Rental car companies are found guilty of misleading consumers	**Wine** there is an excellent growing season for grapes	**Butter** the price of margarine falls
			
Guns the government makes it illegal to own some types of guns	**Bicycles** productivity falls at the manufacturing facility	**Houses** the cost of timber increases	**Luxury cars** the government increases the luxury car tax
			
Marijuana marijuana is legalised for medicinal purposes	**Softdrinks** a 'sugar tax' is introduced	**Petrol-powered motor vehicles** the cost of petrol falls to relatively low levels	**iphone** the price of Samsung phones fall and a price war commences
			
Baby formula Chinese consumers develop a preference for Australian produced baby formula	**Hotel rooms** Airbnb enters the market allowing people to list their own rooms/houses for rent	**Cappuccinos** the cost of coffee beans increases	**Hot chocolates** the cost of coffee beans increases
			
Normal potatoes Sweet potato crops are wiped out in floods	**Digital televisions** the Federal Government cuts off the analogue signal	**Bananas** a massive storm wipes out banana plantations	**Coffee** the price of sugar increases by 1000%

Application Exercise 3j: Some COVID-19 impacts in 2022

The following is an edited extract of an article published in The Guardian titled 'It's a big crisis: COVID staff shortages in Australia more disruptive now than at height of Delta'. Read the extract and answer the questions below.

Staff shortages during the current Omicron case surge are proving more disruptive than during the height of the Delta wave. …An unofficial lockdown in Sydney and Melbourne has also hammered consumer confidence and spending as people stay at home rather than risk catching the virus. "This is an imperfect storm," Damian Kelly, a spokesman for Business NSW, said. "At a time when businesses were hoping for a bumper summer, it's been the reverse."

…The secretary of the Australian Council of Trade Unions, Sally McManus, said the situation was worse than in early to mid-2020 when COVID first hit and lockdowns began. "Back then we did have supply chain issues, but nowhere near (what's happening now), and the reason is because of the number of people who are sick," she said. "Never in our history have we had the hole in this number of workers at the same time sick – it's a big, big crisis economically and obviously personally for everyone affected."

Requirements for workers to isolate amid a widespread surge in new COVID cases and the lack of available testing are forcing companies large and small to limit operations, while the latest consumer confidence data points to a chilling effect of the turmoil on consumer spending. … Inghams, Australia's biggest chicken supplier, said staff shortages caused by the Omicron wave were causing shortages at customers that Guardian Australia has confirmed include KFC, which is having difficulty obtaining some types of fresh chicken pieces on the east coast.

Visits to supermarkets reveal meat and some dairy products to be among the most affected if emptying shelves are any guide. Most dairy farms, for instance, can hold only about one or two days' supply of milk, and have to dispose of the product if they can't get it out the farm gate, the industry said. Alexi Boyd, the chief executive of the Council of Small Business Organisations Australia, said the shortage of workers was savaging the hospitality and retail sectors, including activities ranging from hair salons to live music and other entertainment events.

…Conditions were now akin to the depths of the Delta lockdowns in NSW and Victoria last year but without the same aid from governments. "The key differences, they were state-sanctioned and there was small business support in place or regardless of what the reason was," Boyd said. "Now many of those support measures no longer exist but we're essentially in a similar situation in that business cannot function for no fault of their own." Boyd said the lack of rapid antigen tests and their costs was only one of the issues that governments should hurry up and fix. Another was a plea to the Morrison government to remove limitations on international students that still keep them from working more than 20 hours a week. "It should be lifted to up to 40 hours a week across the board," she said.

Source: https://www.theguardian.com/australia-news/2022/jan/11/its-a-big-crisis-covid-staff-shortages-more-disruptive-now-than-at-height-of-delta

Questions/tasks:

1. Draw a fully labelled demand and supply diagram for a product like 'fresh meat', assuming that the equilibrium price is $10 per kg and the equilibrium quantity is 100,000 kg.
2. Explain how a shortage of workers might impact on the market for products, such as fresh meat. Illustrate your response with reference to the demand and supply diagram drawn in Question 1 and describe how the market adjusts to its new equilibrium.
3. Using the example of fresh meat from questions 1 and 2, distinguish the law of demand from the law supply.
4. Explain how more people isolating and staying away from work is expected to impact on wages.
5. Explain how the removal of limitations that prevented international students from working more than 20 hours per week is likely to impact on both wages and the prices of goods and services.
6. Explain how an increase in wages to very high levels might impact on relative prices and the allocation of resources in the Australian economy.
7. Explain how each of the following factors would have impacted on the market for services provided by the hospitality sector (e.g. hotels, hair salons and restaurants) during 2022.
   - A decline in consumer confidence
   - An increase in interest rates
   - Further lockdowns introduced by the state governments
   - Technological advances in Australian industries

3.10 Multiple choice review questions

1. Which of the following best describes the 'Law of Supply'
a) price and quantity supplied are unrelated
b) price and quantity supplied move together
c) increases in supply are caused by a price fall
d) supply will decrease until market equilibrium is reached

2. An excess demand for a product indicates that
a) the price for sale in the market is too low
b) inappropriate technology was applied causing over production
c) resources are being wasted or used inefficiently
d) poor marketing and promotion has left a shortfall in demand

3. If market equilibrium is $1.40 per litre for petrol, any attempt by government to fix the price at $1.50 cents per litre will cause
a) supply to increase, demand to fall, price to rise and excess supply
b) supply to fall, demand to increase, price to rise and excess supply
c) supply to fall, demand to fall, price to fall and excess supply
d) supply to increase, demand to fall, price to fall and excess demand

4. Which of the following situations is most likely to reflect black market activity?
a) Bill purchases an AFL Grand Final ticket
b) Jack provides plumbing services for cash, without charging GST
c) Henry purchases a house from a gangster through a real estate agent
d) Bill the farmer sells cattle to an Indonesian abattoir

5. When the price of a product is above equilibrium
a) it means that there is excess supply and price will fall
b) it means that there is excess demand and price will fall
c) it means that there is excess supply and price will rise
d) it means that there is excess demand and price will rise

6. With respect to the market for oranges, which of the following statements is correct?
a) The price will rise when the supply increases
b) The price will fall when the demand increases
c) The price will fall when the demand for orange juice increases
d) The price will rise when the price of mandarins (a substitute) increases

7. Which of the following is likely to cause an increase in the demand for books printed in Australia?
a) an increase in the sale of e-books (electronic book readers)
b) the introduction of GST on books bought online from overseas
c) an increase in the cost of production
d) the closure of major retail book stores

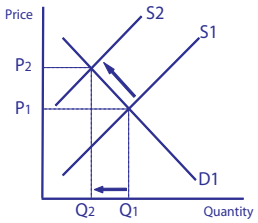
8. The price of haircuts would probably increase if:
a) interest rates were increased
b) consumer confidence decreased
c) there was a shortage of skilled hairdressers
d) the savings rate for households increased to high levels

9. Which of the following is a factor affecting the supply of products to markets rather than the demand?
a) The number or price of substitutes
b) Advertising and/or promotion of the product
c) Income levels of consumers
d) Productivity

10. Which of the following is <u>not</u> regarded as a factor affecting the willingness to supply motor cars?
a) A change in labour costs
b) Consumer confidence
c) Changes to the costs of complying with government laws and regulations
d) Government subsidies to motor car manufacturers

11. Which of the following events would result in an increase in the equilibrium price and a decrease in the quantity traded for chocolate?
a) an increase in the price of a substitute for chocolate
b) an increase in the world price of cocoa (an input in chocolate production)
c) a successful advertising campaign by Cadbury Schweppes
d) an increase in the size of the Australian population

12. With respect to the adjacent demand and supply diagram in the market for apples, which statement is incorrect?



a) Supply has decreased in the apple market
b) Demand for apples is lower
c) Resources are likely to shift out of apple production
d) Excess supply caused the price of apples to rise

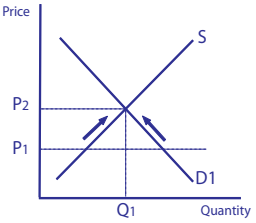
13. The discovery of a major new oil deposit would result in

a) Reduced prices of oil and higher quantities sold
b) Reduced prices of oil and lower quantities sold
c) Higher prices of oil and higher quantities sold
d) Higher prices of oil and lower quantities sold

14. A greater number of substitute products in a market should lead to all of the following, except

a) An increase in production volumes
b) a decrease in average profits earned
c) an increase in productivity or efficiency
d) an increase in prices

15. Which of the following best describes what is happening in the market as depicted in the adjacent D/S diagram?

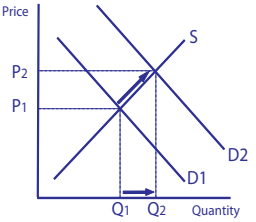


a) Excess supply with price too low and the price is increasing towards equilibrium.
b) Excess demand with price too high and the price is falling towards equilibrium.
c) Excess demand with price too low and the price is rising towards equilibrium.
d) Excess supply with price too high and the price is falling towards equilibrium.

16. In the market for potatoes, which of the following would be most likely to cause a higher price and lower quantity sold in the market?

a) a reduction in government subsidies to potato farmers
b) a reduction in transport and freight charges
c) a decrease in the cost of fertilisers
d) a decrease in the price of the potatoes

17. Which of the following is most likely to cause the new equilibrium in the market for wine as depicted in the adjacent D/S diagram?



a) A decrease in the price of wine.
b) A bumper wine growing season.
c) A decrease in the wine tax .
d) A decrease in rates of personal income tax.

18. The Medical Journal of Australia reported in 2011 that, following the introduction of the alcopops tax, there was a 30% reduction in the sale of pre-mixed alcoholic drinks and a 10%-15% increase in the sale of other spirits. Which of the following statements is incorrect?

a) More resources will be allocated to the production of 'other spirits'.
b) Alcopops and 'other spirits' are perfect substitutes.
c) The price of 'other spirits' will have risen.
d) The relative price of 'other spirits' has fallen.

19. Which of the following is most likely to result in a higher relative price of iron ore?

a) A higher price of iron ore
b) A higher price of iron ore with all other prices in the economy increasing by the same amount
c) A lower price of iron ore with all other prices in the economy decreasing by a larger amount
d) A higher price of iron ore with all other prices in the economy increasing by a larger amount

20. Which of the following provides the best definition of the price mechanism?

a) How the forces of demand and supply influence prices, which then determines the way goods and services are allocated in the economy.
b) How the forces of demand and supply influence relative prices, which then determines the way resources are allocated in the economy.
c) How market forces influence the prices of goods and services, which then determines the way resources are allocated in the economy.
d) How the forces of demand and supply influence consumers and producers, which then determines the way resources are allocated in the economy.

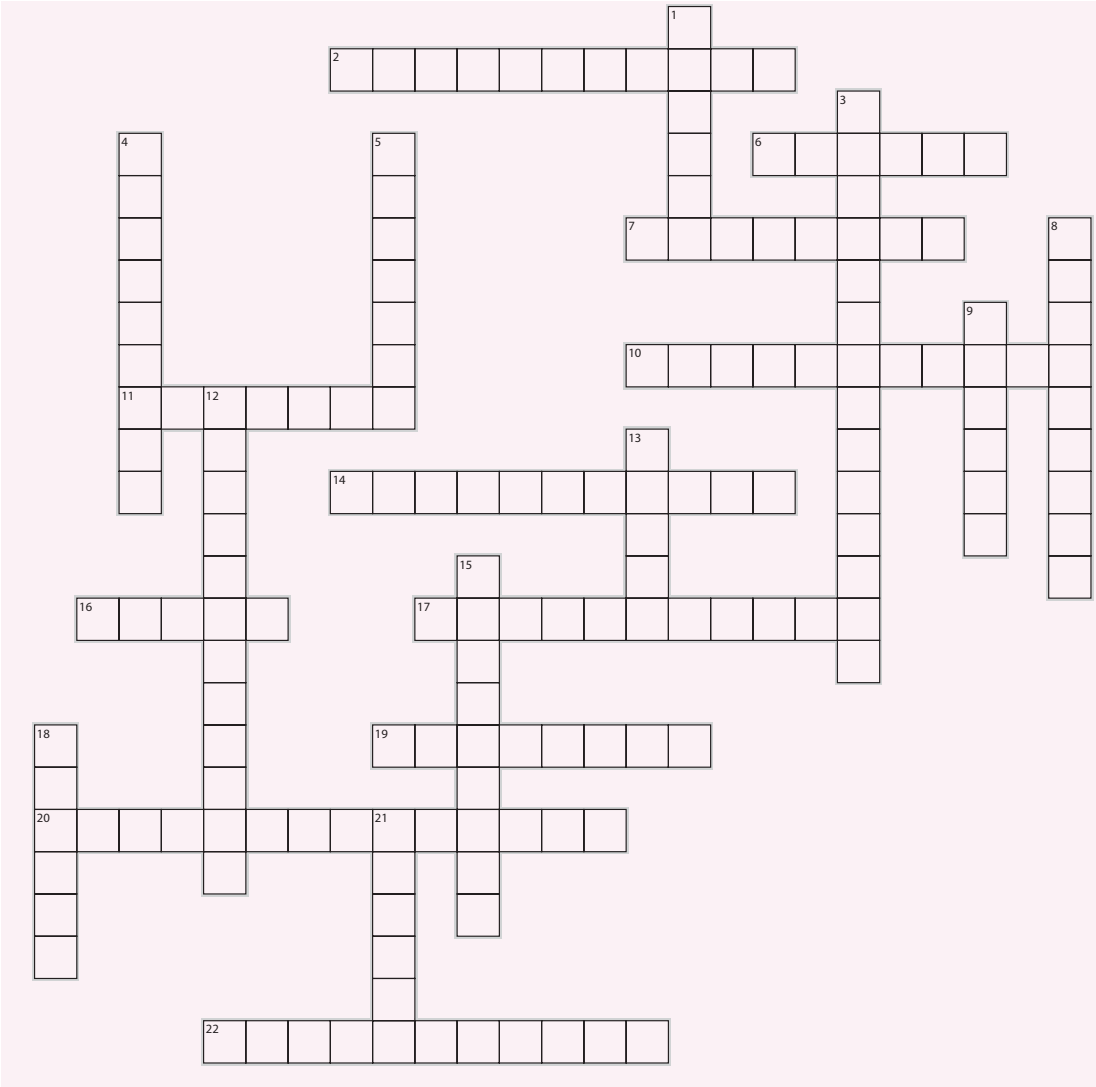
3.11 Chapter crossword puzzle

Across

2. As the price of a product increases, the total quantity demanded decreases, as the price increases the total quantity demanded decreases (3 words)
6. A place or situation where buyers and sellers of goods or services come together in exchange
7. Goods or services are also referred to as these. Beginning with P
10. An increase in these will reduce disposable income (2 words)
11. This market involves the purchase of goods and services from foreign sellers
14. When the market is in a state of rest, with neither excess demand nor excess supply
16. The market where illegal goods and services are bought and sold
17. Bread and butter are examples of these
19. When there is excess demand in the market
20. The price of one product relative to other product(s) (2 words)
22. Coffee and tea are examples of these

Down

1. This market involves the demand for and supply of workers
3. How the forces of demand and supply influence relative prices of goods and services which then ultimately determines the way productive resources (such as labour and capital) are allocated in the economy (2 words)
4. Borrowing and lending of money takes place in this market
5. When there is excess supply in the market
8. Cash or other benefits given by governments to businesses in order to help them produce a particular product
9. This market involves the sale of goods and services to foreign buyers
12. When this increases, it will tend to reduce business costs and drive the price down
13. This is determined by the interaction of demand and supply
15. Minerals and agricultural products are sold in these markets
18. This tax would place a 'price on carbon' and help to reduce the relative price of renewable energy
21. Businesses are motivated by this



3.12 Chapter summary

1. A market is a place or situation where buyers and sellers of goods or services come together in exchange, namely to exchange a good or a service. The rate of exchange is the price of the good or service.
2. Typically, a market will occur in a physical place where those who demand products (buyers) and those who supply the products (sellers) gather to exchange goods or services at a price. There are, however, other markets that do not involve a physical meeting place for buyers and sellers. Instead they rely on communications technology to bring the buyers and sellers together.
3. The demand for a good or service represents the willingness and ability of buyers or consumers to purchase goods and services.
4. Law of Demand refers to the inverse relationship between quantity demanded and price. As the price of a product increases, the total quantity demanded decreases and as the price decreases the total quantity demanded increases.
5. A demand curve describes the relationship between price and the quantity demanded, with a downward slope reflecting the law of demand.
6. In addition to a change in the price of a product, there are many other non-price factors that can affect the total quantity demanded for any product. These include disposable income, the price of substitutes and complements, preferences and tastes, interest rates, changes in population, consumer sentiment and government intervention.
7. When demand changes as a result of a price change this causes a movement along the demand curve. A lower price causes an expansion along the demand curve and a higher price causes a contraction along the demand curve. In contrast, an increase in demand due to non-price factors will cause the demand curve to shift to the right and a decrease in demand due to non-price factors will cause the demand curve to shift to the left.
8. The supply of a good or service represents the willingness or ability of suppliers or producers to produce and/or sell goods and services.
9. The Law of Supply describes the positive relationship between quantity supplied and price. As the price of a product increases, the supply increases, and when the price decreases the supply decreases.
10. A supply curve describes the relationship between price and the quantity supplied, with an upward slope reflecting the law of supply.
11. In addition to a change in the price of a product, there are many non-price factors that could lead to a change in the supply of a product. These include a change in the costs of production (including the costs of labour, materials and capital), technological change, productivity growth, climatic factors and government intervention (such as the imposition of taxes, subsidies and regulations).
12. When supply changes as a result of a price change this causes a movement along the supply curve. A higher price causes an expansion along the supply curve and a lower price causes a contraction along the supply curve. In contrast, an increase in supply due to non-price factors will cause the supply curve to shift to the right and a decrease in supply due to non-price factors will cause the supply curve to shift to the left.
13. The price of a product will be determined by the relative strengths of demand and supply.
14. Excess demand for a product (a shortage) means that the price is too low and demand is greater than supply.
15. Excess supply of a product (surplus) means that price is too high and demand is less than supply.
16. The equilibrium price is the price where there is neither excess demand nor excess supply of a product. When the price of a product is at this equilibrium level, there is no pressure for price to change, unless another factor causes demand or supply to change.
17. The equilibrium quantity level is the number of goods and services that are sold in the market when the price is at its equilibrium level.
18. When market prices are not at equilibrium levels (also called disequilibrium), shortages or surpluses develop and prices will then adjust over time in order to 'clear' markets. Prices will increase until shortages are eliminated or prices will fall until surpluses no longer exist. We call this 'convergence' to equilibrium.
19. Increases in demand that occur for any reason other than a price change (i.e. due to demand factors) will result in a higher equilibrium price and quantity.
20. Decreases in demand that occur for any reason other than a price change will result in a lower equilibrium price and quantity.
21. Increases in supply that occur for any reason other than a price change (i.e. due to supply factors) will result in a lower equilibrium price and higher quantity.
22. Decreases in supply that occur for any reason other than a price change will result in a higher equilibrium price and lower quantity.
23. The price (or market) mechanism describes how the forces of demand and supply influence relative prices of goods and services which then ultimately determines the way productive resources (such as labour and capital) are allocated in the economy.
24. The relative price is the price of one product when compared to another.
25. Producers are motivated by higher relative prices and consumers by lower relative prices.
26. Movements in these relative prices will then result in changes to production in the economy and a reallocation of resources, such as labour and capital, from the production of some goods and services to the production of others
27. Whether a higher relative price for a product leads to more or less resources being allocated to it depends on what has caused the relative price to increase. If it has been caused by higher demand then more resources will be allocated to it. If it has been caused by less favourable supply conditions then fewer resources are likely to be allocated to it.

Chapter 4
Market case studies and market structures

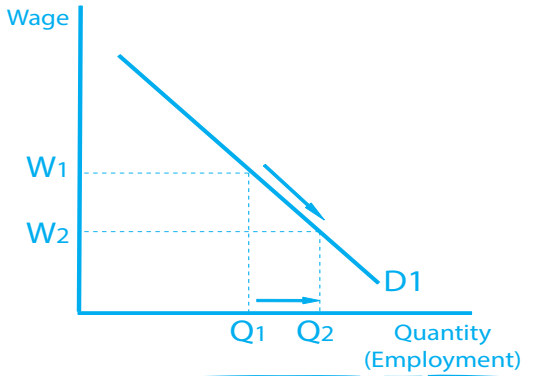
4.1 Case study 1: Study of labour markets (extensive)

A **labour market** is a market for labour services, where buyers and sellers of labour services come together in exchange and where the rate of exchange is the price of labour. The demand for labour comes from the business or government sectors of the economy as employers, and the supply of labour comes from workers (or employees). The price of labour is normally referred to as the **wage** or **salary**, where a wage usually refers to a weekly amount (such as $1,000 per week) and a salary an annual amount (such as $52,000 per year).

In reality, the price of labour reflects more than the cash wages or salaries paid to workers. Employees are primarily concerned about the price of labour in terms of **remuneration**, which is defined as the total financial reward for working and includes the wage or salary plus any additional 'cash equivalent' benefits such as the use of a company car, employer-funded superannuation benefits, subsidised housing, travel benefits, bonuses, commissions and so on. If you scan the papers or the Internet and focus on job vacancies, you will see that many employers will be seeking to attract applicants for positions by using words such as 'attractive remuneration package'. This basically means that the employer is offering to pay the worker a combination of cash (in the form of a wage or salary) and unspecified non-cash benefits that will be revealed upon application.

The demand curve for labour

Employers are keen to achieve the most cost efficient outcome when employing labour. They will be willing to pay more for high quality workers and less for unskilled labour. However, if we assume for a moment that skill levels or quality of workers are kept constant, all profit maximising employers will seek to minimise the wage paid to employees. So as wages increase we naturally expect employers or businesses to demand less labour.

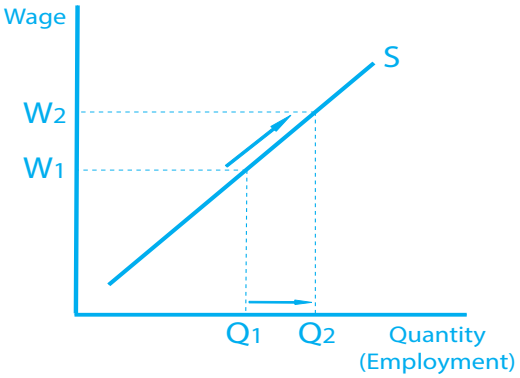


Employers increase their demand for labour as the wage falls [expansion of demand]

Like markets more generally, as we discovered in Chapter 3, an increase in the price will tend to cause a substitution out of the good or services and into an alternative. In the case of labour markets, the alternative to labour services can be capital or machinery. As the cost of labour (i.e. the wage) rises, firms have more incentive to reduce the demand for labour, substituting out of labour and into capital. In simple terms, they may choose to replace workers with machines. Similarly, as the wage falls, firms will be more inclined to increase the demand for labour and perhaps delay any plans to invest in capital. This relationship between the wage and the demand for labour is depicted in the demand curve above, where the wage is the **price of labour** shown on the vertical axis.

The supply curve for labour

When employees offer or supply their labour services to employers they are attracted by the highest remuneration levels possible. This is logical, as a higher remuneration (which, for simplicity, we will call 'the wage') will enable individuals who work to purchase more goods and services and boost their material standards of living. Accordingly, any increase in the wage will attract more people to offer their labour services to that particular market. In contrast, lower wages will raise the opportunity cost of working and make it more attractive not to work. This then explains why the supply curve in the labour market is upward sloping from left to right, as depicted in the diagram to the right.



More 'workers' are attracted to supply their labour when the wage rises [expansion of supply]

Equilibrium in labour markets

Like any market, labour markets will be in equilibrium when the price of labour (or the wage) is at such a level that the total demand for labour is exactly equal to the total quantity supplied. The market will converge to the **equilibrium** price and quantity like any market. If the wage is too high (i.e. above equilibrium) an excess supply of labour will occur, which effectively means that unemployment of workers in that market will develop because employers don't want to buy as much labour as potential employees want to sell at that price (or wage). This excess supply will reduce the wage over time and lead to a fall in the supply of labour (**contraction** along the supply curve) as some workers decide to exit the labour force. In addition, the lower wage will increase the demand for labour (**expansion** along the demand curve) as employers are incentivised by the cheaper price of labour and decide to hire more workers. This process of downward adjustment of the wage over time will help to reduce (or eliminate) unemployment as the market approaches equilibrium. Note that this adjustment assumes there are no other conditions imposed on the market, such as minimum wages (which is considered shortly.)

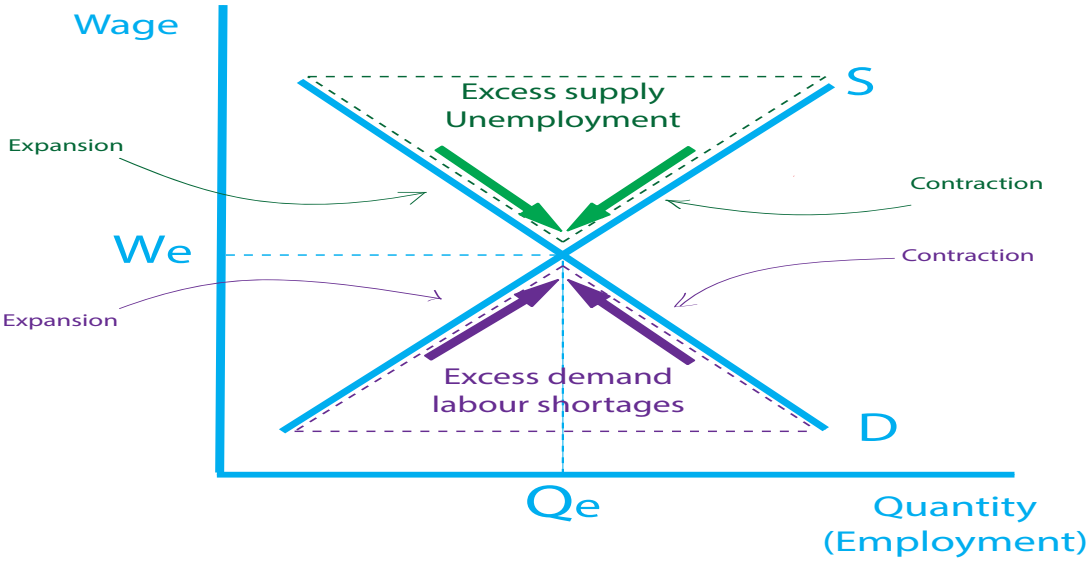
Similarly, if the wage is too low, excess demand for labour will occur (i.e. a shortage of workers becomes evident) which will typically be signaled by a rise in job vacancies. Employers will therefore start to increase wages in order to attract workers. The higher wages will, over time, cause an increase in the supply of labour (expansion along the supply curve)and a decrease in the demand for labour (contraction along the demand curve) as employers substitute into relatively cheaper factors of production (e.g. capital).

Study tip

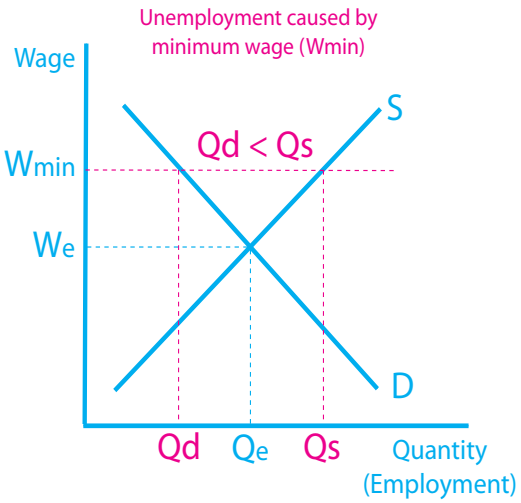
Students should be careful when considering the market for labour. They must remember that the demand for labour represents the perspective of the employer (businesses), and the supply of labour represents the perspective of the employee. Some students struggle to remember this, as they are more familiar with markets where supply represents the perspective of businesses, and demand the perspective of consumers.

The dynamics of adjustment in labour markets from disequilibrium to equilibrium are highlighted in the D/S diagram below.

Equilibrium wage and quantity in labour markets

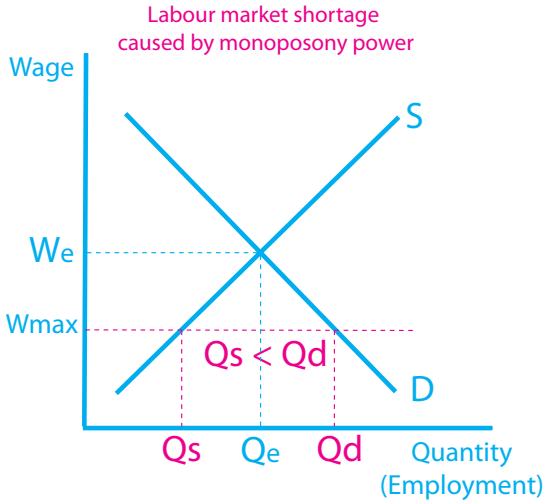


How can labour markets stay in disequilibrium?



The conclusions above about how the labour market returns to equilibrium are all based on the assumption that labour markets operate freely. However, there are various examples of government laws and/or regulations that influence labour market outcomes. For instance, government **minimum wages** legislation keeps the wage artificially high in some industries. This means that the wage becomes fixed at a level above the equilibrium level that would arise if the market were allowed to operate freely without government intervention. This would cause some degree of **unemployment**. This is depicted in the D/S diagram to the right.

There are also examples of other institutional forces that work to keep the price of labour depressed. For instance, in the market for teachers in Victoria, the Victorian government has what is referred to as a '**monoposony power**', which means that it is the single biggest buyer of teaching services, and consequently it has a huge influence on the price of labour. It is therefore able to keep the wage of teachers below the equilibrium level, creating an excess demand for (or shortage of) teachers. This is depicted in the diagram to the left, where Wmax represents the artificially low maximum wage.



This is particularly true in the case of Maths and Science teachers who would certainly receive a much higher wage if the market for teachers consisted of a greater number of buyers (i.e. schools) competing for labour services.

Shifts in the demand for labour

Employers are concerned about the total cost of labour, which not only includes the amount directly paid to the workers in the form of remuneration, but also the other labour related costs in the form of state government payroll taxes, Workcover insurance and the general costs connected to a compliance with government labour related laws, such as Occupational Health and Safety laws. Similarly, employers are concerned about the cost-effectiveness of labour, which not only takes into account the total costs of labour, but also the quality of labour. In other words, employers are also concerned about the efficiency of labour as measured by **labour productivity**. Labour productivity is defined as total output per labour hour worked, or simply as the total volume produced divided by the number of hours worked in the organisation.

Any factor that changes an organisation's willingness to employ labour, apart from the actual wage or remuneration, will shift the demand curve for labour either to the left (a decrease) or to the right (an increase). Examples of factors that will increase the demand for labour, shifting the demand curve to the right, include the following:

Greater levels of efficiency or labour productivity

If labour becomes relatively more efficient, it means that the **quality of labour** has increased relative to the quality of other factors of production and employers are more likely to demand labour and employ workers. Of course, the reverse is true if there is an improvement in the relative efficiency of capital (e.g. machinery) due to advances in technology.

A reduction in non-wage labour costs, such as payroll tax or Workcover insurance

Payroll tax is a tax levied by state governments in Australia. It is paid by employers, based on the size of their wages bill. If there is a reduction in payroll tax, for example, this means that overall costs of employing staff will fall, making it more cost effective for employers to increase the size of their workforce by increasing their demand for labour.

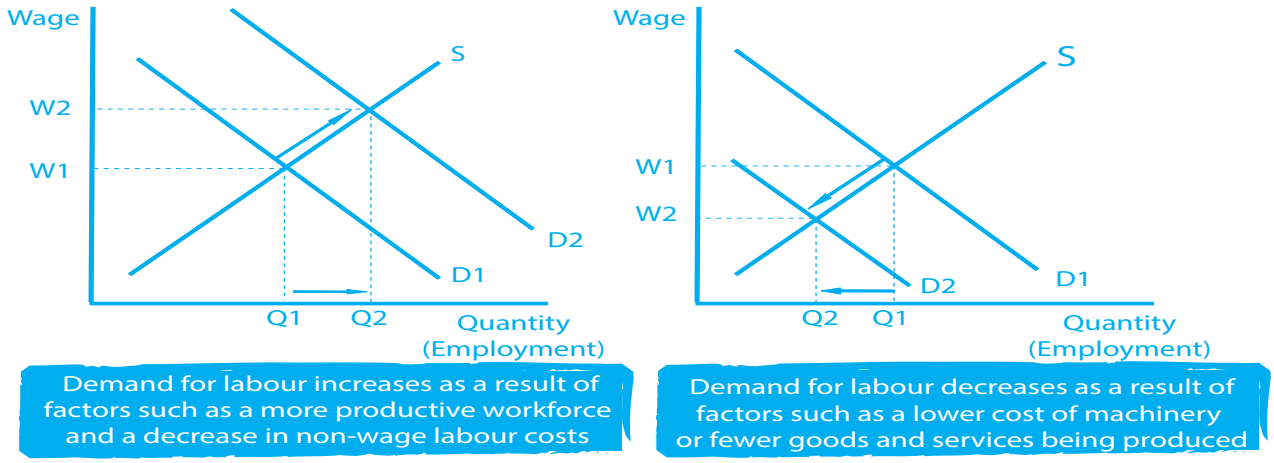
An increase in the production of goods or services

When more goods are produced in response to higher consumer demand, it will necessarily lead to an increase in demand for factors of production. This leads to a higher **'derived demand for labour'** (i.e. the demand is essentially derived from greater production of goods and services).

There is an increase in the price of a substitute factor of production (such as capital)

If the cost of machinery or robotics increases, it reduces the relative price of labour and makes it more likely that an organisation will replace capital with labour, which increases the demand for labour.

Each of these factors will cause the demand curve to shift to the right, resulting in a higher wage and greater employment in that market. In the event that one or more of these factors moved in the opposite direction, the demand for labour would shift to the left, resulting in a lower wage and less employment in that particular market. These shifts in the demand curve and the effects on wages and employment are depicted in the D/S diagrams below:



Shifts in the supply of labour

While it is true that employees are primarily concerned about remuneration, there are a number of factors, apart from the wage or remuneration, that will influence individuals' willingness to offer their labour services to the market. These factors will either shift the supply of labour to the right (an increase) or to the left (a decrease). Examples of factors that will increase the supply of labour, shifting the supply curve to the right, include the following:

An increase in the non-financial benefits of work

There are numerous examples of 'non-financial' benefits and/or costs associated with employment. The benefits include a sense of purpose provided by work, improved self-esteem or status associated with certain jobs, the benefits of being part of 'a team' and the job security attached to certain jobs.

A decrease in the non-financial costs of work

The non-financial costs associated with work include the riskiness associated with a job, such as the risky nature of police or mining work, as well as other factors like stress levels, work hours and travel time to work. When the non-financial costs of work decrease, individuals will be much more willing to offer their labour services.

A fall in the wage received in competing labour markets

When there is a decrease in the wages offered in a particular labour market, it will result in individuals offering their services in other labour markets. For example, in the markets for relatively unskilled labour, if the demand for cleaners fell, then wages for cleaners will eventually fall, and over time fewer workers would offer their labour services to the market for cleaners (represented by a contraction along the supply curve). Instead, they would offer their labour services in another market, such as the market for parking attendants, because the wage will be 'relatively' higher than before. This will result in a greater supply of labour at commercial car parks (represented by a shift to the right of the supply curve in the market for parking attendants). Note that the first change in supply in the market for cleaners is as a result of a change in the price (wage) for cleaners, while the change of supply in the market for car park attendants is a result of a change in supply at all possible prices.

An increase in net migration to Australia

If more people enter Australia as immigrants compared to those that exit as emigrants, we experience an increase in **net migration**. This should eventually lead to a larger supply of workers in various labour markets, shifting the supply curve to the right and exerting downward pressure on wages. In Australia's case, the skilled migration program seeks to ensure that we experience increases in the supply of migrant labour in those markets experiencing

labour shortages. In recent times, this included accountants, engineers, architects, nurses, chefs, locksmiths, and medical professionals (in rural regions).

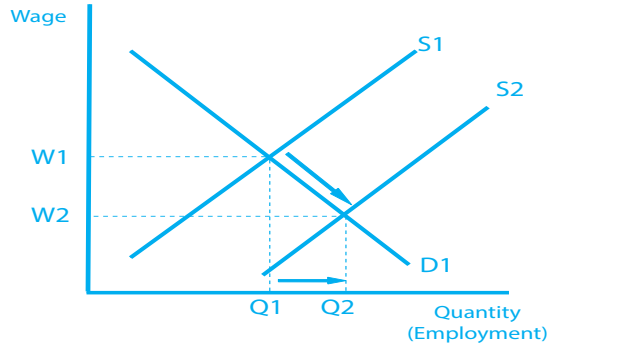
A reduction in restrictions on entry to some professions

A number of professions restrict entry of people into courses of study in order to maintain high standards, as well as to keep the remuneration levels high. The best examples in Australia include the legal, medical and dental professions. If these restrictions were eased, more students would enroll in these types of courses, which would eventually increase the supply of labour to these professions in the long run.

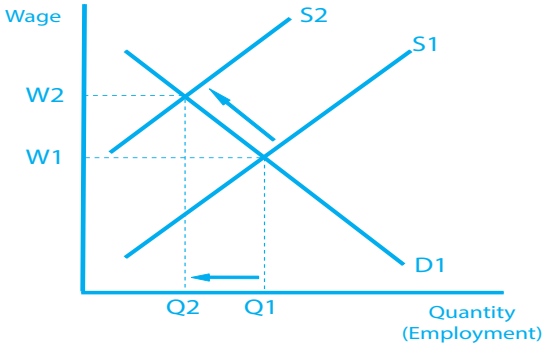
Changes in technology

While it is common to see changes in labour saving technology that ultimately reduces the demand for labour, there are also examples of changes in technology that make it easier for individuals to supply their labour. General advances in internet technology have made it feasible for people in remote locations to offer their labour services in city regions. For example, faster internet speeds have enabled some professionals to live in remote parts of Victoria and offer their expertise to employers in the heart of Melbourne. In addition, recent developments in digital technologies (and the spawning of the **digital economy**) have provided individuals with the opportunity to easily and flexibly offer their labour services in the 'digital economy'. For example, it is relatively straightforward for someone to offer their services as a driver via apps such as Uber, Didi and Deliveroo, or to offer their skills to the market via apps like Airtasker or hipages.

Each of these factors will cause the supply curve to shift to the right, resulting in a lower wage and greater employment in that market. In the event that one or more of these factors moved in the opposite direction, the supply of labour would shift to the left, resulting in a higher wage and less employment in that particular market. These changes are depicted in the D/S diagrams below:



Supply of labour increases as a result of factors such as an increase in net migration or an increase in the non-wage benefits of working



Supply of labour decreases as a result of factors such as greater benefits offered in alternative jobs or restrictions on entry into that profession

What happens in a tight (strong) labour markets?

When a particular labour market is tight (or strong), it means that there are lots of job vacancies (where employers are looking for workers to fill positions at their organisation) and the demand for labour will be high, leading to a general shortage of workers in that particular market. In other words, demand for a particular type of worker is relatively high and the supply of those workers is relatively low. In tight labour markets, there is pressure for the wage to increase over time, until the shortage is eventually eliminated. A common example relates to the market for mining workers during a period of strong growth in the prices of commodities, such as iron ore, coal and natural gas. [See Application exercise 4a.]

As the Australian economy emerged from the COVID-19 induced downturn of 2020-21, the combination of a growing demand for labour and restrictions on the supply of labour (due to both the closure of Australian borders and COVID related health reasons) resulted in growing vacancies and widespread shortages across a host of industries and occupations leading into 2022. This was an example of Australia experiencing general tightening of labour markets that exerted upward pressure on the price of labour from the middle of 2022.

What happens in weak (or loose) labour markets?

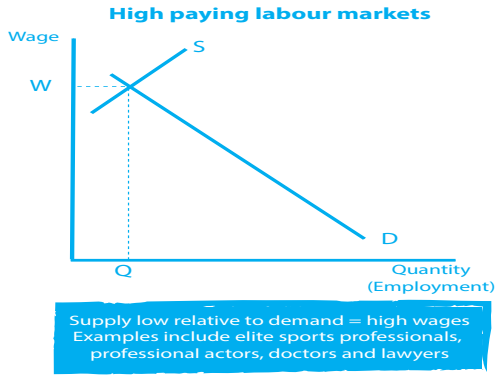
When a particular labour market is weak or loose, it means that there are very few job vacancies and there is a general surplus of workers in that particular market. In other words, the supply of a particular type of worker is relatively high and the demand for these workers is relatively low. In weak labour markets there is no pressure for the remuneration or wage to be rising. A good example of a weak labour market is the market for shop assistants, or retail workers more generally, and the wage for this type of worker is relatively low. When the economy is in decline, such as during 2020 when Australia experienced what became known as the COVID recession, then there is a general weakness in the labour market that eventually exerts downward pressure on the price of labour.

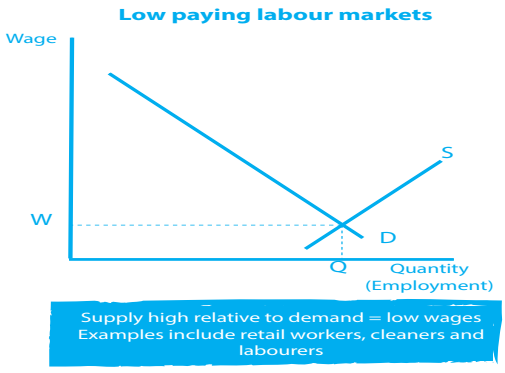
High versus low paying jobs?

Overall, the highest wage or remuneration levels are received by those individuals who supply their labour services to markets where the supply of labour is low relative to the demand. Often this occurs in the following cases:

- The risk to life associated with jobs is very high. This is particularly the case with occupations such as underground miners and deep sea divers.
- The skill or talent possessed by individuals is relatively rare or unique. This usually results from years of training and education (such as those in the medical or legal professions), but can also occur when someone holds a 'God-given talent', such as some musicians, sportspersons and actors. The ability or willingness to take risks, and the possession of a rare talent will not, however, be enough on its own. These individuals will also need to ensure that they enter a labour market where there is a demand for the service they can provide.

It is therefore the imbalance between the demand and supply of labour that explains why some workers receives very high levels of remuneration and others receive very low levels. In short, those occupations where the supply is high relative to the demand will receive lower wages and those where the supply is low relative to the demand will receive higher wages. This is depicted in the D/S diagrams below, including examples of high and low paying occupations.





Review questions 4.1

1. Define a labour market.
2. Distinguish between the terms remuneration and wage.
3. Explain why the demand curve for labour is downward sloping.
4. Explain why the supply curve for labour is upward sloping.
5. Draw a D/S diagram for a labour market, indicating disequilibrium with the wage above equilibrium, and explain how the market returns to equilibrium.
6. Draw a D/S diagram for a labour market, indicating disequilibrium with the wage below equilibrium, and explain how the market returns to equilibrium.
7. Explain how minimum wages laws can increase unemployment. Use a D/S diagram to support your explanation.
8. Using a D/S diagram, explain how an employer with monopsony power can create shortages in labour markets.
9. Identify four factors that could increase the demand for labour and discuss the impact on wages and employment. Use a D/S diagram to support your discussion.
10. Explain how changes in technology can impact on both the demand and the supply of labour.
11. Identify four factors that could increase the supply of labour and discuss the impact on wages and employment. Use a D/S diagram to support your discussion.
12. Distinguish a strong labour market from a weak labour market.
13. Using a D/S diagram, discuss why some types of labour receive high wages and others receive low wages.
14. If one of your goals in life is to make lots of money from your job, what can you do to improve your chances of achieving this goal?

Application Exercise 4a: Price mechanism at work during the mining boom and beyond

The growth of economies such as China and India since the early 2000s was a major factor behind a shift in the way Australian resources were used in the production of goods and services during the boom. These economies grew from a relatively low base, from a position of underdevelopment, to heavy spending on major infrastructure and development projects such as roads, rail, ports, manufacturing facilities and energy plants. This growth in the development of thousands of projects required raw materials, in particular iron ore and coking coal that are inputs in the production of steel. Given that Australia has vast quantities of both of these commodities it created boom conditions for Australia, with high global prices received by Australian mining companies reaching unprecedented levels. This mining boom led to a change in relative prices across the economy, which in turn caused a re-allocation of Australia's resources towards this sector of the economy.

The mining sector's expansion was stimulated by higher prices for commodities, in particular iron ore and coal. This reflects a shift to the right of the demand curve for commodities, increasing their price and stimulating further investment in the production of these commodities. Some of the investment flowing into mining came at the expense of other industries, such as the manufacturing industry. It stands to reason that an astute investor would rather channel funds into growing industries, such as mining, leaving fewer funds and investment opportunities for the manufacturing industry. This is compounded by the fact that the mining industry's growth at the time further damaged the manufacturing industry in three important ways:

- First, to attract resources to the mining sector, such as labour, mining companies needed to make it more attractive for workers to travel to remote mining regions. They did this by increasing the wages offered to engineers, IT specialists, truck drivers etc. Whilst this attracted labour to the mining industry and away from non-mining sectors (such as manufacturing), it raised the overall cost of employing labour in the manufacturing sector. This is because engineers, IT specialists and truck drivers will have needed a bigger wage to prevent them moving to the higher-paying mining sector.
- Second, the higher price of commodities eventually led to a higher cost of inputs used in the manufacturing sector, such as steel. This combined with the higher labour costs to increase costs of production, forcing up the prices of manufactured output and leading to reduced international competitiveness. Domestic consumers were attracted to the lower relative price of imported manufactured goods, and foreign purchasers substituted away from the higher relative price of Australian manufactured exports.
- Third, the growth in demand for Australian minerals on world markets (i.e. growth in mining exports) contributed to a higher demand for the Australia dollar and raised the value of the dollar to unprecedented levels. This further reduced the international competitiveness of Australia's manufacturing sector because manufactured exports became relatively more expensive and manufactured imports became relatively cheaper.

Rates of economic growth in China fell from 2011, causing the prices for minerals to decrease and resulting in Australian resources (such as labour and capital) flowing in the other direction, away from the mining sector and towards those sectors experiencing renewed growth, such as the tourism, manufacturing and education sectors. Understandably, these sectors benefited from the fall in wages (helped along by a surplus of mining labour), lower prices for other key inputs, such as steel, and a lower exchange rate. This has helped to stimulate growth in sectors of the economy (such as manufacturing) that suffered during the boom period.

Since 2016, commodity prices increased once again (contributing to the highest terms of trade on record during 2022), leading to further growth in the mining sector. The impact on labour markets, however, has been somewhat different due to the heavy investment in labour saving technology that occurred during the earlier growth years. The new technology (e.g. driverless trucks and trains) enabled the mines to become more capital intensive (e.g. employing more machinery relative to labour), reducing their reliance on labour and helping to avoid the costly labour shortages that beset the mines in previous booms.

Questions/tasks

1. **Explain the major factor behind the mining boom in Australia that peaked in 2011-12.**
2. **Discuss why manufacturers might have found it more difficult to raise funds for expansion over this period.**
3. **Explain how changes to the 'relative price' of labour in different industries causes a shift in the allocation of labour resources.**
4. **Explain the impact that the mining boom had on the market for truck drivers in Australia. Use two adjacent D/S diagrams to support your explanation – one for truck drivers in non-mining sectors and another for truck drivers employed on the mines.**
5. **Explain how the higher wages paid to mining workers increased labour costs for the manufacturing industry.**
6. **Explain why higher labour costs created an increased demand for capital in the mining industry.**
7. **Explain how the successful investment in new technologies (i.e. the increased demand for capital) may affect the market for mining labour in the longer term. Use a D/S diagram to support your explanation**
8. **Explain how the end of the mining boom helped to maintain downward pressure on labour costs in Australia**
9. **Outline how the renewed growth in the mining sector since 2016 is having an impact on labour markets that is different to the impact experienced during the boom years up to 2011-12.**

Application Exercise 4b

A country private school operating in product, financial and labour markets

Remember that a market is a place or situation where buyers and sellers of goods or services come together in exchange and where the rate of exchange is a price. Every market has three key elements: quantity demanded, quantity supplied and the price of that particular good or service.

Assume that there is a large and relatively prestigious private school operating in a remote part of Victoria. Let's call it Martesson Grammar. It operates in the market for education services; there is a buyer of the services (parents), a seller of the service (the school) and a price for the service (the school fees). The rate of exchange (i.e. the fees) is essentially determined by the forces of demand and supply. If there is an increase in the demand for places at the school, then we would expect fees to rise. If there is an increase in the supply of places at the school (e.g. the school increases its size), then we would expect fees to fall. Whether fees increase or decrease over time will ultimately depend on the forces of demand and supply.

The school also relies on bank funding to finance parts of its operations. By requesting a loan from the bank it means that the school is also participating in financial markets. It is effectively demanding money (borrowing) from the financial sector and the bank is willing to supply (lend) from the financial sector to the school. The rate of the exchange (or the price of the exchange) is referred to as the interest rate (which is, in simple terms, the price of borrowing money) and the rate that is paid to the bank will ultimately depend on the forces of demand and supply for money in financial markets. During strong economic times, interest rates will be higher because people save less and spend more, reducing the supply of funds available for banks to lend and increasing the demand for loans. When the economy is weak, people tend to save more and spend less, increasing supply of funds and reducing the demand for loans.

The school also operates in the labour market. This market is just like any market, where there is a demand for labour (by employers such as the school), a supply of labour (by qualified individuals willing to teach at the school) and a price (which is effectively the wage or other remuneration given to teachers and other staff as payment for labour services provided). An understanding of markets helps us to appreciate why a school like Martesson Grammar will need to offer a relatively attractive remuneration package to employees. It is also worth remembering that the price (or wage) paid in labour markets will vary across different markets. In the market for quality AFL footballers, the wage is relatively high, whilst in the market for retail workers the wage is relatively low. The use of D/S diagrams for labour markets will help to explain why this is the case.

In the case of Martesson Grammar, we can ask why it needs to offer a relatively high wage. It all relates to the supply of labour! On the one hand, there will be an ample supply of individuals willing to work at a 'prestigious' school. This, on its own, should exert downward pressure on the wage (think about the supply curve shifting to the right). On the other hand, the school's remote location works against it. These factors result in fewer teachers (from Melbourne or elsewhere) being willing to travel the longer distances (or relocate) to offer their labour services to the school. This effectively pushes the supply curve to the left and exerts upward pressure on the wage!

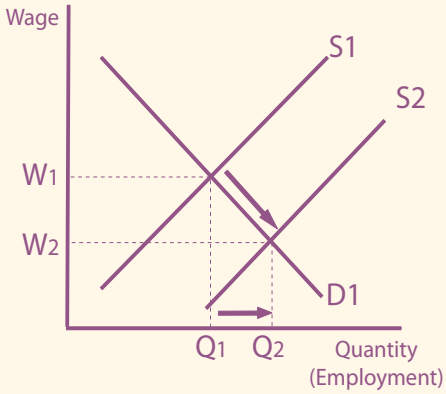
Questions

1. **Explain how Martesson Grammar operates in product markets.**
2. **Explain how Martesson Grammar operates in labour markets.**
3. **Explain how Martesson Grammar operates in financial markets.**
4. **With respect to the market for education services, explain what is likely to happen to school fees at Martesson Grammar if the reputation of a local government school increases dramatically. Use two adjacent D/S diagrams to support your explanation, one for Martesson Grammar and one for the government school.**
5. **Use a D/S diagram in financial markets (with interest rates on the vertical axis) to illustrate the impact on interest rates following the increased willingness of people to save money.**
6. **Use a D/S diagram to illustrate why AFL footballers receive more remuneration than the average retail worker.**
7. **Use a D/S diagram to illustrate why the remuneration of Martesson Grammar teachers is likely to be relatively high.**
8. **Discuss a factor that might prevent the wages of teachers at Martesson Grammar from rising too high.**

Application Exercise 4c

Labour markets exercise using demand and supply diagrams

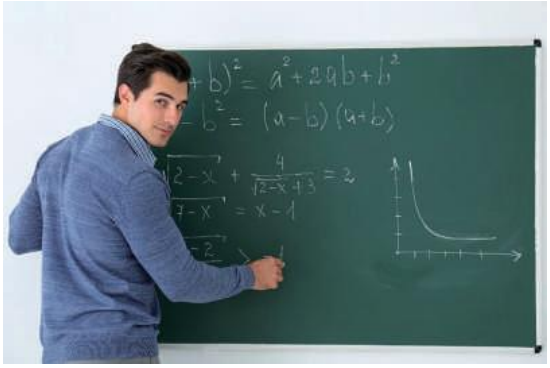
For at least 10 of the hypothetical scenarios listed below, examine the possible impact on the labour market in terms of what might happen to employment and wages. You must illustrate your answer with reference to a relevant D/S diagram. The first one has been done for you.



1. **In the market for teachers, the universities ease entrance requirements for teacher-training courses.**

   It increases the willingness of students to undertake a teaching course, which boosts the supply of teachers, creating downward pressure on the teaching wage (and greater employment of teachers).

2. **In the market for teachers, there is an increased incidence of abuse directed toward them from students and parents.**
3. **In the market for doctors, the government makes it difficult for immigrant doctors to practise in Australia.**
4. **In the market for nurses, the ageing population causes an increase in hospital visits per year.**
5. **In the market for plumbers, more and more school leavers are choosing to go to university.**
6. **In the market for builders, the government has introduced a first home owner's grant.**
7. **In the market for footy players, the AFL has decided to remove both the salary cap and limitations on player lists.**
8. **In the market for ski instructors in Australia, global warming shortens our ski season to one week.**
9. **In the market for workers generally, the government decides to introduce a minimum wage that is above the equilibrium level.**
10. **In the market for workers generally, the government removes unfair dismissal laws making it easier to fire employees.**
11. **In the market for clerical workers, the government decides to set up a huge government department to devise policies that reduce the threat of terrorism in Australia.**
12. **In the market for workers generally, the government decides to increase the rate of personal income tax by a large amount.**
13. **In the market for CEOs, the government decides to introduce a 'maximum wage' that is well below the current rates paid to CEOs.**
14. **In the market for real estate agents, people are deciding to renovate their houses instead of upgrading (i.e. selling their existing house and buying another house).**
15. **In the market for real estate agents, the Victorian government has reduced stamp duty (a tax on the purchase of assets like property) to zero.**
16. **In the market for workers generally, there is an increase in immigration.**
17. **In the market for football umpires, the incidence of umpire abuse increases dramatically.**
18. **In the market for soccer referees, more and more parents are directing their children away from football and towards soccer.**
19. **In the market for psychologists, the government has decided to provide Medicare rebates to patients using psychological services.**
20. **In the market for telephonists, more businesses are hiring companies that provide these services using telephonists from low wage countries such as India and the Phillipines.**



Application Exercise 4d: Wages too high or too low?

In some sectors, the labour market does not reach an equilibrium wage that clears the market. In some cases there will be a shortage, and in others a surplus, of labour.

Case Study 1 – The equilibrium wage is too low

Consider the market for Maths Teachers. When it comes to the market for teaching, wages are generally seen as inflexible. All senior teachers are essentially paid the same (unless they hold a position of responsibility such as a head of department or deputy principal). This means that there is inadequate scope to reach an equilibrium wage for the different types of teachers that are employed. The other problem associated with teachers' wages is that there are few choices of employers. In Victoria for example, two-thirds of teachers are employed by the Victorian Government. Therefore, when it comes to wage negotiations, the government has relatively stronger bargaining power (a form of **monopsony power**). This means that wages for teachers (and Maths teachers in particular) are below the equilibrium. The relatively low wages offered to Maths teachers (compared to what they might attract in other professions) means that demand for these professionals is greater than the labour supply available. Most schools therefore find it difficult to attract Maths teachers. In a free market, schools could offer higher salaries to attract the teachers in short supply and the equilibrium wage would rise. Most schools are unable to do this, so the shortage persists and will continue to do so for some time, unless more schools are given greater autonomy to remunerate teachers independently.

Case Study 2 – Is the equilibrium wage too high?

In many professions, wages are determined without the free operation of market forces. Fair Work Australia, a Federal Government authority, sets minimum wages and conditions for a wide range of professions. In some instances, the wages are set above the equilibrium. This means that labour supply at the going wage will be higher than labour demand. This creates an on-going surplus of labour in the industry as businesses argue that they cannot afford to employ more workers at the going wage rate. This was particularly evident in the retail sector pre-COVID-19, as conditions deteriorated due to a generally weak economy (and the associated decline in spending relative to saving) as well as increased competition from online retailers, whose cost base is lower. Wages, however, are seen as inflexible. Minimum wage laws prevented them from responding to the decrease in demand brought about by online shopping and increased savings patterns.

Similar remarks were made in relation to the hospitality industry. Businesses typically complained about the large costs associated with hiring staff, particularly on weekends. If the equilibrium wage is set too high, then it tends to create unemployment. If the wage was moved closer to the equilibrium wage then more people could be hired in these industries. This is because the costs of labour would be lower and businesses would have more incentive to invest and expand. Employers often argue that the relatively high wages when compared to our international competitors also reduce their ability to attract customers both here and abroad. The Australian Council of Trade Unions (ACTU), in contrast, believe that workers deserve to be rewarded for their efforts and receive a wage that enables them to achieve a dignified standard of living.

Since 2021, Australia has been experiencing growing shortages across a range of occupations, which would ordinarily suggest that wage levels on average were too low and that the price of labour would increase. However, there was only scant evidence that wages were increasing in response to the clear excess demand for labour (at least up until the middle of 2022). The ABS' own measure of the (average) 'price of labour', the wage price index, continued to show very low growth, even below the rate of inflation, which indicates a decline in the 'real wage'. While there are likely to be specific factors that accounted for the relatively slow rate of adjustment of wages, including the long run decline in both unionisation and average hours worked, it is true that some upward adjustment of wages (as seen from the middle of 2022) was inevitable. This holds true for any market that experiences disequilibrium characterised by a price that is too low – eventually the price (of labour) will increase and the shortages will continue to fall until equilibrium is restored.

Questions/tasks

1. **Explain why it might be impractical to pay teachers of different subjects according to market conditions (i.e relative levels of labour demand and labour supply).**
2. **Identify and explain one profession (other than teaching) where the equilibrium wage is set too low. (Hint: the most convincing evidence to prove this will be if there is a shortage of workers in the field).**
3. **Explain why wages above the equilibrium in an industry will cause unnecessary waste of labour resources and/or unemployment.**
4. **Explain what is meant by the real wage.**
5. **How could the cost of hiring labour fall without the employers giving each worker a pay cut?**
6. **Discuss how minimum wage laws can impact on Australia's international competitiveness.**
7. **Explain how a lower rate of unionisation might influence the speed of adjustment of wages up towards equilibrium.**

4.2 Case Study 2: Brief study of stock markets

What is a stock?

A **stock** is also referred to as a **share** and it represents a part ownership in a public company. Stocks or shares are issued by companies seeking to raise funds from investors. For example, ABC Company may have been operating as a small family business and the owners decide that the business has huge growth potential, but requires an investment of millions of dollars for this to occur. If the owners have insufficient funds and/or are reluctant to rely solely on debt, an option is to become what is known as an incorporated entity. For example, a **public company** is an incorporated entity that 'lists' on the Australian Stock Exchange, inviting investors to purchase shares in the company. These investors then become **shareholders**, enticed by a share of the profits over time, called **dividends**, and perhaps **capital gains**, but more on this later.

The market for stocks

Like any market, a stock market is a place where buyers and sellers of a good or service come together in exchange and where the rate of exchange is the price. In this case, the buyers are investors wishing to purchase stock and become shareholders. The sellers are those wishing to sell the stock in order to raise funds. The initial sale of shares to investors takes place in the '**primary market**', where the company is listed on the **stock exchange** for the first time and has a '**float**' or '**Initial Public Offering**' (IPO). In an IPO, the investors buy the shares directly from the company itself. The primary market also includes the sale of more shares by existing companies, usually to raise funds for further expansion. However, once a sale has taken place in the primary market, a shareholder can sell them on the '**secondary market**'. This can happen immediately (and sometimes does, particularly to those who missed out on the initial sale in the primary market), or months or years later.

This case study will primarily focus on activity that takes place in the secondary market given that this is where the bulk of stock market activity takes place.

The demand curve for shares

The demand for shares comes from investors who are purchasing a financial asset that they believe (or hope) will increase their wealth over time. In investment language, the shareholder is buying shares to maximise his or her 'returns' (loosely called profits) from owning the shares. The returns from owning shares come in two main forms:

a) The dividends paid by a company to its shareholders; and
b) The capital gain made while owning the shares.

Dividends represent a share of the profits made by a company. When companies report a profit for a particular period, they will often distribute a percentage of this profit (or all of it) to its owners. Remember, shareholders are the owners of these companies, which entitles them to a share of the profit. Sometimes a company will decide to distribute only a small portion of its profits (or none) via dividends, and instead retain the funds to further invest in or expand the business. This will usually increase the value of the business over time and result in a higher share price, which in turn leads to capital gains, the second major return from owning shares.

Study tip

It is important not to confuse the relationship between the price and the demand for shares with other factors that will work to shift the whole demand curve. For example, some students become confused by demand increasing for shares when prices fall. The common misconception is that falling prices will deter demand because investors will fear the market is falling and that they will experience immediate capital losses if they purchase in a falling market. This sounds logical enough. However, the fear of a falling market is all about negative investor 'expectations', which is a factor that shifts the demand curve to the left and creates a lower price!

Capital gains for shareholders occur when their shares increase in value over time. Many investors purchase shares simply to take advantage of the capital gains that will occur if the share price increases. In order to access, or in investment language 'realise', capital gains, a shareholder must sell their shares for a higher price than they paid for them at the time of purchase. However, capital gains are certainly not guaranteed and capital losses occur when share prices decrease, as they did in the first six months of 2022, when prices fell by more than 10%.

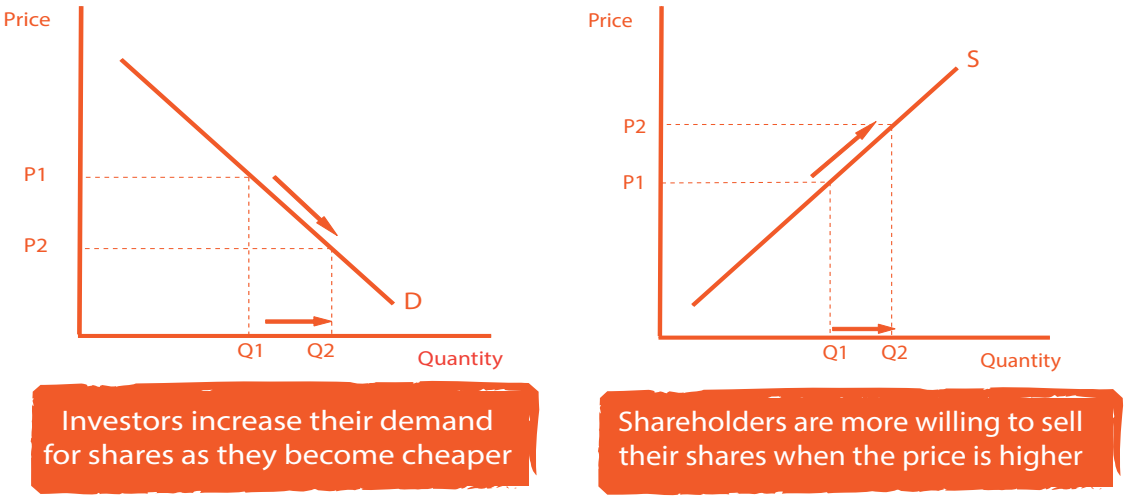
The demand curve for shares is downward sloping for the same reasons as that described in other markets. When the price of shares fall, investors will – ceteris paribus – see that any given share becomes more valuable. In other words, the overall return they are likely to earn from owning the share will be higher when compared to the purchase of the same share at a higher price.

The supply curve for shares

The supply of shares will initially come from companies listing on the stock exchange for the first time. The total supply of shares that exist in the market is fixed (until a company decides to raise more funds from the market by issuing more shares), but the quantity actually 'traded' in the secondary market on any given day is highly variable.

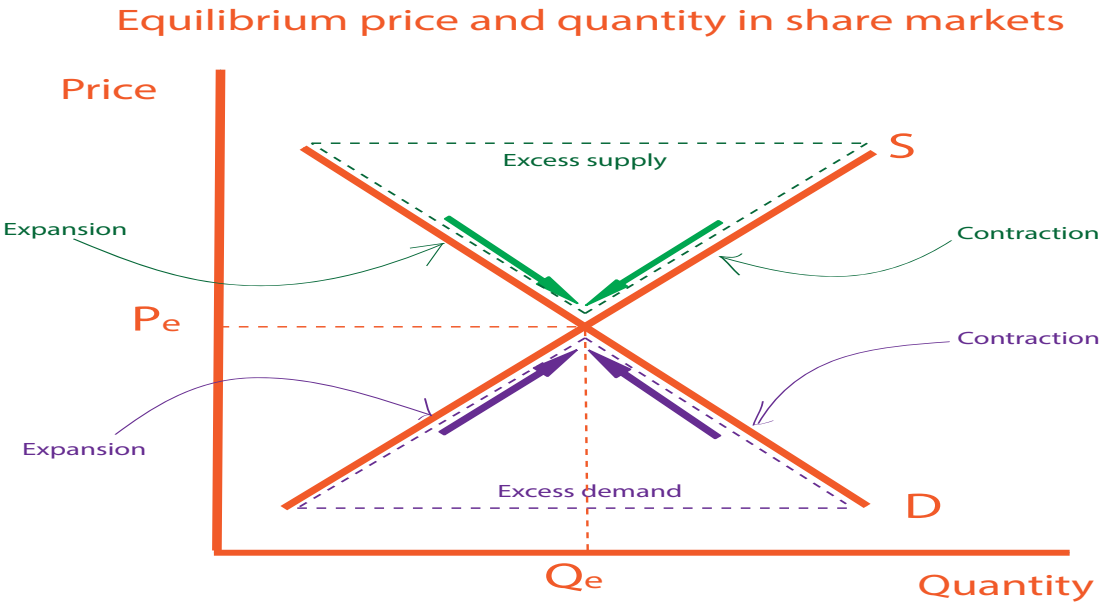
The supply of shares in the secondary market comes mainly from existing shareholders of companies. So, to return to our earlier example, the purchaser of ABC Company shares in the public float forms part of the demand for these shares, but this same shareholder can decide to sell the shares the next day, thereby becoming a supplier of shares. Shareholders will be more willing to supply shares to the market (i.e. sell their shares) – ceteris paribus - if the price is rising. This is because they are able to make (or realise) more of a **capital gain** or less of a **capital loss**. In contrast, they would be less willing to sell when prices are lower, preferring to wait until the price rises in the future.

The demand for and supply of shares are depicted in the diagram below.



Equilibrium in stock markets

Prices in stock markets will converge towards an equilibrium price and quantity traded. Falling prices occur when there is an excess supply of shares, which means that there are too many sellers in the market compared to buyers. Rising prices occur when there is an excess demand for shares, which means that there are too many buyers compared to sellers. This is depicted in the D/S diagram below.



Stock markets are characterised by severe **price volatility** over short periods of time. This means that the prices of shares are always moving up or down in search of a new equilibrium price that is created by shifts of both the demand and supply curves.

Shifts in the demand for shares

Any factor that changes the demand for shares, other than a change in price, will be a factor that causes a shift of the demand curve. The factors outlined below are examples of events that will cause the demand for shares to increase, reflected in a shift to the right of the demand curve.

Study tip

Note that the term investment has been used differently. In Economics, 'Investment' most commonly refers to a component of the total demand for goods and services (called Aggregate Demand and covered in Chapter 5) representing spending on capital goods like machinery, equipment, or infrastructure. In financial markets 'investment' refers to the purchase of financial assets, including shares, bonds, term deposits, crypto currencies, etc.

Improved expectations and confidence levels

Investor expectations is the single biggest factor that drives the excessive volatility of stock markets. When investors believe that stock market conditions are good, evidenced by a rising market (called, colloquially, a '**bull market**'), they will increase their demand for shares, believing that the overall rates of return from holding the shares (in particular, capital gains) will continue to rise.

Takeover or merger activity increases

When one company wishes to take over (or merge) with another company, this will typically require the purchasing company to buy a majority of shares in the takeover target (the company being bought). This means that the demand for shares in the takeover target will increase. Mere rumours of a **takeover** will also increase the demand for shares of the takeover target because investors will realise that the purchasing company needs to buy the majority of shares in existence. By purchasing the shares quickly, investors anticipate a quick capital gain because they can sell their shares in the takeover target for a higher price once the purchasing company enters the market to buy all/most shares in existence.

Lower interest rates

Study tip

The price of a financial asset, such as a bond, will always be inversely related to the yield/interest rate that applies to that Bond. For example, if you purchase a Government bond for $100 and the Bond pays an annual $10 to the bearer (holder) of the Bond, then the yield on the bond is 10%. If the price of the Bond increases in the market from $100 to $200, the yield on the bond falls to 5%, because the $10 only represents a 5% return on the investment. In this case, other things being equal, investors are then more likely to purchase shares, given that they will now have a relatively higher yield (or return).

Interest rates represent the cost of borrowing and, when they fall, it can entice companies to invest more in expansion. To the extent that debt-fuelled investment is successful in raising future profits, the lower interest rates can result in a higher demand for a company's shares.

Interest rates also represent a return on an investment for the lender. When they fall, the lender (who is also considered an investor in this context) will see a lower rate of return being offered on debt-based investments (such as an investment in a bank term deposit or the purchase of government bonds). Accordingly, investors are more likely to invest their funds into the stock market, increasing the demand for shares and decreasing the demand for interest-bearing investments. For example, assume that the sharemarket is generating an average rate of return of 6% per annum. A person with $1m in a term deposit, earning 6% interest, is likely to take some (or all) of this money and invest in the sharemarket if the interest rate on the term deposit falls to 1%. In Australia, the growth in the average price of shares leading into 2022 has, at least in part, been driven by the fall in Australian interest rates to the lowest level in history. Some investors took their money out of interest earning investments, such as term deposits, and investing in the sharemarket, while other investors took the opportunity to borrow money at very low rates of interest to invest in a surging sharemarket. Since the start of 2022, the reverse began to occur, with interest rates rising and the sharemarket in decline.

Price and availability of substitutes

Shares are only one type of financial asset used as a form of investment. There are many other **financial assets** that investors could purchase, such as the debt-based investments referred to above, or other assets such as gold, foreign currencies or hybrid investments such as **convertible bonds** (where the bondholder, as a lender, can convert the bond into a share) and even properties, both residential and commercial. If the purchase price of these alternative investment options increase, it means that shares are relatively cheaper, and potentially a better investment option.

There are also other factors that will change the demand for shares, such as changes to management and government policies, movements in exchange rates and changes in global trading conditions. In isolation, or combined, a change in any of the factors mentioned will cause the market for the particular shares (or shares in general) to move into disequilibrium. For example, lower interest rates or an improvement in investor confidence will increase demand, causing a shortage (or excess demand) as buyers will outnumber sellers at the original price. This creates pressure for the price to rise until a new equilibrium price (and quantity traded) is achieved.

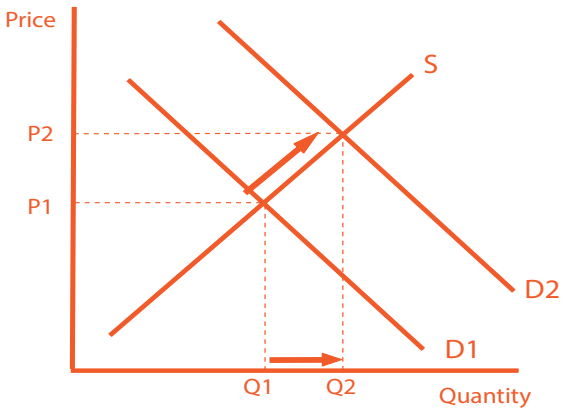
'Bull markets' occur when the demand and prices of shares in general is very strong such that there is a sustained increase in prices very high levels. This means that the demand curve continues to shift to the right, creating repeated shortages over time and driving prices ever higher. Australia experienced a bull market between February 2016 and February 2020, with the average price of shares rising by 30%. It can also be argued that a bull market occurred between March 2020 and August 2021, a period where prices rose by approximately 57%. However, this growth relates more to a 'market correction' than to sustained growth in demand and prices. For example, shares were 'over-sold' during the 'market crash' that occurred at the start of the pandemic (i.e. between February and March 2020) as panic selling set in, but recovered ground once investor uncertainty was lessened somewhat. Generally, during bull markets, share prices tend to increase above their fundamental values (that is, what they are really worth) because investors are often buoyed by **irrational exuberance** or optimism. However, the reverse tends to when the market crashes or enters a period of sustained decline (see bear market below).

Shifts in the supply of shares

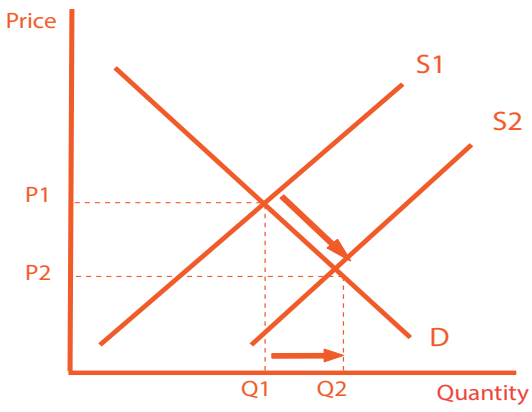
Any factor that changes the willingness of shareholders to sell (or supply) their shares, other than a change in price, will be a factor that causes a shift of the supply curve. The factors shifting the demand are also factors that will tend to shift the supply curve. For example, with respect to expectations and confidence, a slump in investor expectations will tend to reduce the demand for shares, shifting the demand curve to the left. However, existing shareholders will also be more willing to sell (supply) shares if they too lack confidence in the market. In this context, the supply curve shifts to the right, creating excess supply of shares at the original price and forcing the price down towards the new equilibrium. A **bear market** is the opposite of a bull market described above. In a bear market, pessimism results in an increase in supply and reduction in demand, which combine to cause prices to spiral downwards (such as between February and March 2020 when the market panicked during a period of heightened uncertainty associated with the arrival of COVID-19.). So the other factors impacting on demand will also impact on the supply of shares. In particular, the supply curve will shift to the right, causing share prices to fall in the following instances:

- ***Falling expectations and confidence levels (e.g. a period of heightened uncertainty)***
- ***Takeover or merger activity decreases***
- ***Interest rates increase***
- ***Price and availability of substitutes***

The other factors that change the demand for shares, such as changes to management and government policies, will similarly impact on the willingness of shareholders to sell their shares on the market, and are therefore also factors affecting the supply of shares. Changes in demand and supply, and the impact on sharemarket prices and quantities traded, is depicted in the two D/S diagrams below.



The demand for shares increase due to factors such as stronger investor confidence, lower interest rates or the emergence of takeover rumours



Investors are trying to sell shares due to more attractive investment options elsewhere (e.g. higher property prices) or less confidence in the sharemarket

Application Exercise 4e The rise of cryptocurrencies as a form of investment

Cryptocurrencies (also referred to as cryptos or digital tokens) are a type of digital currency and a form of ínvestment that has risen to prominence over recent years. These currencies were originally established to allow people to make payments directly to each other without the need to rely on the traditional banking systems within countries. The technology behind cryptocurrencies (i.e. blockchain technology) is alleged to have other applications and does have the potential to add value to the way countries process digital transactions. However, despite this, it is the growth in the market for cryptocurrencies in general that has seen prices and investment returns climb exponentially over just a few years (until the general collapse in the market during 2022). Between 2018 and 2021, the market rose by more than 400% (in the case of the two most common cryptos, Bitcoin and Ethereum) driven almost entirely by speculation as investors became increasingly attracted by the growing prices of cryptos.

Many of the investors entering the market were less sophisticated, or novice investors, who were largely driven by a fear of missing out (FOMO) on the massive returns (profits) that were simply too good to be true. Such returns could never be realised in the more traditional investment classes, such as shares and property (both of which were also enjoying solid growth but nothing like those from cryptos) or interest bearing assets such as bonds and bank deposits (which were offering the lowest returns in history). The general collapse of the market during the first half of 2022 saw prices fall by anywhere between 50% (e.g. Bitcoin and Ethereum) and by significantly more for lesser known cryptos (e.g. Litecoin, the Sandbox and Algorand), reflecting the inherent volatility that has been experienced in the market for cryptos since their inception. More recently, the riskiness attached to crypto investments has been added to by the rise of crypto scams, where investors have been lured by the promise of high returns in new cryptos that simply vanish from the market or are non-existent.

Questions/tasks

1. **Define a cryptocurrency.**
2. **Explain how FOMO influences markets such as those for cryptocurrencies experiencing meteoric rises.**
3. **Explain how a low interest rate environment influenced the market for cryptos.**
4. **Explain how the fall in crypto prices over the first part of 2022 might impact on the sharemarket.**
5. **Explain how the existence of crypto scams influences both the market for cryptos and the market for shares.**

Review questions 4.2

1. Define the terms stock and a stock market.
2. Distinguish the 'primary market' from the 'secondary market' for stocks.
3. Explain why individuals or groups purchase shares.
4. Distinguish 'dividends' from 'capital gains'.
5. Explain why the demand curve for shares is downward sloping.
6. Discuss who supplies shares in both the secondary and primary stock markets.
7. Draw a D/S diagram for a stock market, indicating disequilibrium with the price above equilibrium, and explain how the market returns to equilibrium.
8. Draw a D/S diagram for a stock market, indicating disequilibrium with the price below equilibrium, and explain how the market returns to equilibrium.
9. Distinguish a shift of the demand curve for shares from a movement (contraction or expansion) along the demand curve.
10. Explain why changing investor expectations are a driving force behind stock market volatility over the shorter term.
11. Explain why each of the following is likely to cause the demand for and price of Rio Tinto shares to rise. Use a D/S diagram to illustrate.
    a. An improvement in overall investor confidence.
    b. Rumours of a takeover of Rio Tinto by BHP.
    c. A fall in interest rates.
    d. A fall in the price of bonds.
    e. A large rebound in the global prices received for minerals such as iron ore.
12. Explain why each of the following is likely to cause the supply of Rio Tinto shares to rise and the price to fall. Use a D/S diagram to illustrate.
    a. A fall in overall investor confidence.
    b. Rumours of a takeover of Rio Tinto by BHP are proved false.
    c. A rise in interest rates.
    d. A rise in the price of gold and bonds.
    e. Tax changes that favour property market investments.

Application Exercise 4f

Explain how each of the following hypothetical events is likely to affect the market for shares in Quicksilver. Use a D/S diagram to illustrate your response.

- **The high-performing CEO of Quicksilver is made redundant.**
- **The value of the AUD decreases, improving the international competitiveness of Quicksilver exports.**
- **A global company is set to launch a takeover bid for Quicksilver.**
- **Europe, the USA and China enter a severe recession.**
- **Quicksilver announces a much smaller profit than anticipated.**
- **The government decides to further lower tariffs (taxes on imports) applying to surfwear imports.**
- **Quicksilver is accused of using 'slave labour' in developing countries.**
- **There is the announcement of a government funded 'Get Fit' programme, with surfing as a major part of the program.**

Application Exercise 4g: 'Wall St' the movie

Watch the movie Wall St and/or read the summary below before answering the questions that follow.

In the movie 'Wall Street', a young and ambitious Stockbroker, Bud Fox, has just made a loss on one account and he is under pressure to generate new business. He is intent on doing business with Gordon Gekko, who is one of the most successful 'players' on Wall Street (a street in Manhattan, New York, that is the home of the most successful investment banks and broking houses). Mr Gekko is extremely difficult to speak to personally, but Bud's persistence pays off. Gekko is finally willing to give him five minutes of his time. Gekko is notorious for 'picking winners' and is ruthless with those who do not have much to offer in the way of information that serve his interests (i.e. help increase his personal wealth).

Bud Fox doesn't appear to be attracting Gekko's interest until he is forced to reveal some 'private' information he has gleaned from his father, who is a union representative for 'Blue Star' airlines. The news is that Blue Star, which was under investigation by the federal regulator, the FAA, following an accident, was about to be cleared of any liability. The liability rested with the manufacturer of the aircraft. However, this information was not yet public knowledge. As a result of the investigation, the market had 'priced down' Blue Star stock (i.e. shares) and, accordingly, they were underpriced. Because the information about the FAA clearing Blue Star was not yet public knowledge, it was considered 'insider information.' Once he received the information from Fox, Gekko used this 'insider information' to purchase Blue Star shares (with Bud's assistance) and make a handsome profit. (This is because confidence in the share (stock) will improve and price would increase, once the public was informed of the FAA ruling.) So Gekko was able to buy at a low price and sell at a high price – hence making a profit over a short period of time.

Gekko also used Bud Fox to 'pay back' an old friend, Larry Wildman, a rich 'player' from the United Kingdom. Wildman had 'wrecked' Gekko in the past by buying heavily in the stock of a company (RBL Pharmaceuticals) that Gekko was planning to purchase and restructure (rebuild). At that time, Wildman's intention had been to 'strip' the company and sell all of its assets, which he calculated would fetch a higher value than the purchase price of all of the stock. Wildman's interest in the company had pushed up the share price and, consequently, increased the total amount that Gekko would need to pay in order to purchase all of the stock.

Fox spied on Wildman and discovered that his plans were to purchase 'Annacot Steel' in a bid to restructure the organisation. He believed that the stock was underpriced and a restructure would yield higher profits and a higher share price in the future. To upset Wildman, Gekko ensured that he purchased a substantial portion of the stock and created market interest in Annacot, such that the price of Annacot shares increased dramatically. This meant that the cost of acquiring Annacot Steel for Wildman was much higher. For Wildman to purchase a majority interest in Annacot Steel , he needed to negotiate with Gekko, which he eventually did at an inflated price. Gekko profited heavily at the expense of Wildman, and their rivalry was intensified.

Gekko was also developing an interest in 'Teldar Paper', another company he was keen on restructuring. He purchased a majority ownership in the paper company after using Fox's services once again to acquire private information from a legal firm where one of Fox's university friends was employed.

In the meantime, Gekko had to decide what to do with Blue Star Airlines. He could decide to sell off his shareholding for a profit, or increase his stake in the company in order to control and restructure it. Blue Star was experiencing losses as a result of high operating costs and a price war against the major airlines. Fox believed that the company could be returned to profitability through a reduction in costs and the implementation of a three point plan to increase sales: modernisation, more focused advertising and an expansion of routes. Fox arranged a meeting with the three major unions representing pilots, flight attendants and the maintenance crews of the airline. After some early hiccoughs, an agreement was entered into between the unions and the new major shareholder (Gekko) such that union members would accept lower wages, as well as increase their productivity, in return for the company continuing to operate and (hopefully) returning to profitability.

However, after a short period of time, Gekko changed his mind about Blue Star airlines. He came to believe that Blue Star Airlines would be worth more if all the assets (planes, hangers, etc.) were sold off and the company wound up, which means it would be closed and liquidated. He arranged for this to occur without revealing the details to Fox. Nevertheless, eventually Fox learned of Gekko's plans and was outraged. Fox was concerned because he believed that the airline really could be returned to profitability in the longer term and therefore it would ultimately be worth more than the 'break up value'. More importantly, however, he was concerned about the people working for the airline, who would lose their jobs – including his father and other friends who were members of the maintenance team.

Disenchanted, Fox re-assessed his values and concocted a plan. He contacted Larry Wildman (who, as explained earlier, was a long-term adversary of Gekko's) to determine whether he would be party to a plan that would see Gekko lose millions. Wildman was a more than willing participant and he agreed that Blue Star had a potential to return to profitability. Fox's plan involved him meeting with union representatives and informing them of Gekko's new strategy. While Gekko was seeking to increase his stake in Blue Star by purchasing more shares, Fox and Wildman ensured that the demand for Blue Star stock was increasing at such a rate that it was becoming extremely expensive for Gekko to purchase all of the Blue Star shares in the market. Wildman did this by purchasing heavily into Blue Star with his own funds, while Fox was doing this through his contacts in the industry, spreading a rumour that Blue Star was the subject of a takeover.

Gekko was forced to buy Blue Star shares at exorbitant (extremely high) prices, and once he had purchased the bulk of the shares, Fox organised for the union representatives to storm into Gekko's office. They threatened that if he continued with his plan to break up the company, they would sabotage the company's assets such that the break-up value would be almost worthless. As they were doing this, Wildman and Fox ensured that investors' were selling their holdings of Blue Star, now believing that the takeover rumours were false. Consequently, Blue Star shares plummeted and Gekko was trapped: he had purchased the bulk of Blue Star shares at high prices and was forced to sell them (mostly to Wildman) at low prices.

In the end, the Securities and Exchange Commission (SEC), which is a government body that seeks to eliminate the incidence of corruption and fraud in the stock market, arrested Fox for securities fraud and for violating the Insider Trading Act. Fox then revealed all to the Commission and assisted with the indictment of Gekko, who ended up in prison.

Application Exercise 4g (continued): 'Wall St' the movie

1. Draw a demand and supply diagram for shares and outline the theory behind the demand curve (i.e. who demands the shares and why the curve is downward sloping) and the supply curve (who supplies the shares and why the curve is upward sloping).
2. Draw a demand and supply curve for 'Blue Star shares' and illustrate the impact that takeover rumors have on the share price. Explain why these rumors will affect the share price in this way.
3. Explain why Gordon Gekko is referred to as a 'capitalist' rather than a 'socialist'.
4. Explain how Fox and Wildman conspired to drive Gekko out of Blue Star, making a huge loss as a result.
5. In every contemporary market capitalist economy (like the USA or Australia), companies like Annacot Steel and Blue Star may be liquidated. What this means is that, in essence, the resources used in these enterprises (e.g. labour and capital) are re-allocated to other 'growth' areas in the economy (in the interim, some resources might be unemployed for a period of time). Now presume that Virgin Airlines in Australia engages in such a heated price war with Qantas, that Virgin suffers huge losses and goes broke (i.e. is liquidated). Examine how resources would be re-allocated in this scenario. (Hint: What might happen to Virgin workers and the company's planes?)
6. Using two fully labeled demand and supply diagrams, show how prices and quantities are affected in the markets for Blue Star airfares and its competitors' airfares (e.g. United Airlines) if the following occurred: Blue Star unions do not agree to wage cuts in an environment of strong price competition and a reduction in costs of its competitors. Explain why you moved the curves in this direction.
7. The SEC ensured that Fox was arrested (as explained in the summary above). Explain why there is a need for government intervention of this type.
8. Fox's trading in Blue Star shares was an example of insider trading. What is insider trading and who are the winners and losers from insider trading?
9. Explain why insider trading is illegal around the world, making reference to efficiency of the financial system.
10. If you were Fox's colleague at his workplace and you were aware of his 'insider trading' activities, would you inform your supervisor or the SEC (i.e. would you be a whistleblower?) Explain why or why not.
11. If you watched the film, what did Gekko mean when he referred to his painting as an illusion and capitalism at its finest? "I create the illusion and the illusion becomes a reality".
12. Gekko referred to 1% of Americans owning more than 50% of the nation's wealth.
    a. Explain how this huge inequality in wealth distribution may have arisen and discuss whether or not huge inequality is in the best interests of society.
    b. Outline one government initiative (policy) that could be used to reduce the level of inequality in the distribution of wealth.
13. Explain how the three unions were crucial in, first, capturing Gekko's interest in a possible restructuring of the airline and, second, in contributing to Gekko's losses from holding Blue Star shares (i.e. in him being 'wrecked' by Wildman and Fox).
14. Explain the nature of the agreement between Fox, Gekko and the unions.
15. The following terms/expressions/phrases were used during the movie. Explain what each of them means.
    - "We're in a BULL MARKET here…."
    - "the break up value is twice the market price." (Gekko)
    - "I've bagged the elephant." (Fox)
    - "No one's gonna blow the whistle on you." (Gekko to Fox)
    - "Every battle is won before it's even fought." (Gekko)
    - "I want to rebuild Annacot Steel rather than liquidate it and you're getting a free ride on my tail." (Wildman to Gekko)
    - "I could dump the stock to burn your butt." (Wildman to Gekko)
    - "Do you wonder why fund managers can't beat the S&P 500 (a stock market index like Australia's All Ordinaries Index)? Because they're sheep, and sheep get slaughtered." (Gekko to Fox)
    - "Spread your buy orders over different accounts and you won't get hurt." (Gekko to Fox)
    - "Greed, for lack of a better word, is good…….greed marks the upward surge of mankind." (Gekko at AGM of Teldar Paper)

4.3 What is meant by market structure and market power?

In Chapter 3 and sections 4.1 and 4.2 of this chapter, we learnt about the mechanics of markets. In particular, we learnt how the forces of demand and supply within all markets determine both prices and the allocation of resources. When demand increases in a market, we can predict that it should lead to a higher price, which sends a signal to producers that it might be profitable to devote resources (such as capital and labour) to the production of that good or service. In this respect, an understanding of how markets work enables us to make predictions about the impact of various economic events.

The predictions we can make will, however, depend heavily upon the particular characteristics of a market, such as the number of competitors and the nature of the product being sold in a market, which determine the **market structure** that exists. In other words, markets will have unique characteristics concerning the buyers, sellers and the nature of the product itself that will alter the outcome and therefore the accuracy of our predictions. To illustrate, assume that the demand for a product increases. While we can predict that price will rise, we can never be certain by how much. If the relevant market was characterised by only one seller, then the absence of competitive pressure would allow the seller to increase the price by a large amount without suffering a loss of sales. However, if the market was characterised by lots of sellers, we would expect the price to rise by much less, because any business that raises its price by a large amount will simply lose customers to other businesses in the same market.

Similarly, if the supply of a product in a particular market falls, we also know that price is likely to rise, but the question remains of by how much exactly? Again, knowledge of market structures will help us to predict the likely outcome more accurately. If, for example, the world supply of oil fell (such as in 2022 due to the invasion of Ukraine), the fact that the market is dominated by relatively few global suppliers means that the increase in oil prices will be significant. On the other hand, if the market for oil was highly competitive, the impact on price would be minimal.

Similarly, if the government decided to increase indirect taxes that apply to alcohol and tobacco, then the degree to which these increased costs of production can be passed on to consumers in the form of higher prices will largely depend on the market structure existing in each of those industries. To the extent that these industries are dominated by relatively few firms, the higher taxes (which shift the supply curves to the left in the markets for these products) will mostly be passed onto consumers via higher prices. However, if there are numerous firms competing in the markets for these products, then competitive pressures are more likely to prevent businesses from passing on the costs in full.

The main characteristics that help us to determine the type of **market structure** that exists can be summarised as follows:

- The number of buyers and sellers in a market
- The extent to which the product in a market is unique or differentiated from other products
- The freedom with which businesses can enter the market
- The freedom with which businesses can leave or exit the market
- The degree to which buyers and sellers possess information about the products for sale

Market power is related to market structure and refers to the ability of any particular business (or group of businesses) to control or manipulate prices or quantities in a market. Those businesses that can exercise control over a market will typically face little competition from other businesses. They will experience significant market power and they will be able to raise prices in order to maximise profits. In contrast, those businesses that face lots of competition from other businesses will experience little market power and they will be unable to raise prices without experiencing a drop in sales and profitability.

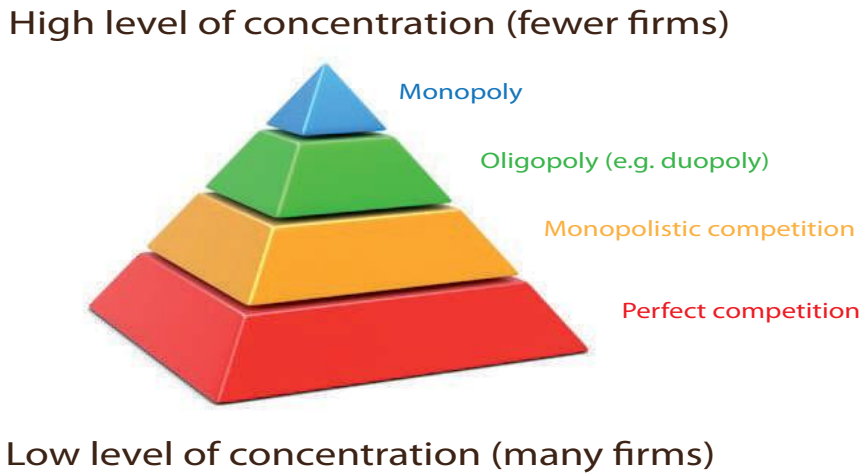
Review questions 4.3

1. Define market structure.
2. Distinguish market structure from market power.
3. Outline the key characteristics that help determine the type of market structure that exists in any particular market.
4. Explain why knowledge of market structures helps us to make better predictions about the likely outcome following (i) an increase in demand for a product; and (ii) a decrease in the supply of a product.

4.4 Different types of market structures

There are four different market structures that we will examine in this course: ***perfect competition, monopolistic competition, oligopoly*** and ***monopoly***. They are listed here in order of the degree of market power exercised by businesses operating within each market, with businesses operating in perfectly competitive markets experiencing the lowest degree of market power and the business operating in a monopoly experiencing the greatest degree of market power.

As market structures move from perfect competition to monopoly, the market is said to become more 'concentrated'. Perfectly competitive markets have the **lowest degree of concentration** (i.e. lots of businesses working to dilute market power) while a monopoly market has the **highest degree of concentration** (i.e. market power is concentrated in one supplier). The relationship between market structures and concentration levels is summarised in the diagram below.



Perfect competition

In the real world, there is no market that is '*perfectly competitive',* although some markets do come close, such as the markets for fruit and vegetables in Melbourne, including the Queen Victoria Market and the Prahran Market. A perfectly competitive market requires the following **conditions** or **assumptions**:

- A **large number of buyers and sellers**
- Perfectly **homogenous products** (i.e. there is no product differentiation – the products in the market sold by the many different sellers are exactly the same)
- There are **no barriers to entry**, meaning that there is nothing to prevent new businesses from entering the market in the event that profit opportunities are identified
- There are **no barriers to exit**, meaning that there there is nothing to prevent businesses from leaving the market in the event that better profit opportunities exist elsewhere
- Buyers and sellers possess **perfect information** about the products offered for sale in markets.

In a perfectly competitive market, the above conditions would ensure that no single business possessed any market power. Each business would be a '**price taker**' in the sense that they would be unable to charge a price higher than their competitors without going out of business in the longer term. This is because, if any business did charge a price higher than their competitors, buyers would buy the cheaper product given that products are homogenous (and interchangeable) and buyers have perfect knowledge about the prices available from each seller. In addition, production would occur at the lowest possible cost given that there is always incentive for businesses to maximise efficiency to keep prices low enough to compete with other low-price competitors. Consequently, consumers would be able to purchase those goods and services they desired at the lowest possible prices.

In this market structure, competition would ensure that businesses priced their products at the lowest possible level, one where profits are only just at a high enough level to justify continued operation in that market. In Economics, this price is said to be one where only '**normal profits**' are made. Businesses will make just enough profit to justify ongoing supply to that market. Prices above this level lead to '**supernormal profits**' or '**abnormal profits**', whereas prices below this level lead to less than normal profits or even losses.

While it is possible for supernormal profits to be made by suppliers in the short term in a perfectly competitive market structure, this will quickly be eroded by the entry of new suppliers seeking to share some of these relatively high profits.

As new suppliers enter the market, the total supply of products in that market will increase, which then drives the price downwards. Accordingly, suppliers in the market will no longer be able to enjoy supernormal profits. Instead, profits will return to a level that is just enough to justify each existing supplier staying in that market. In other words, profits will return to 'normal' levels.

Sometimes it is possible for high levels of competition to drive prices too low, such that losses are made by suppliers. However, this is only likely to persist for the short term because some suppliers will eventually exit the market. This will then reduce the total supply of products in that market, which will then drive the price back up and allow the remaining suppliers to once more make 'normal profits'.

Monopolistic competition

Study tip

A market structure that is characterised by monopolistic competition is often confused with a monopoly. The latter is the least competitive market structure and the best way to avoid the confusion is to focus on the word 'competition' in 'monopolistic competition', rather than the word 'monopolistic'.

Monopolistic competition is a market structure that is very similar to perfect competition in that there are many buyers and sellers, there is freedom of entry and exit and there is perfect information. The difference is the lack of product homogeneity, which means that products in these markets are not identical. To illustrate, products like gas, electricity, petrol are arguably homogenous. However, products like fast food, or hairdressing services are typically differentiated to varying degrees. A consumer purchasing gas or electricity will generally be less influenced by branding, advertising or image and more influenced by price. However, a consumer in the market for a haircut or fast food will be influenced relatively more by branding, advertising and image. This is because products for sale in these monopolistically competitive markets are not the same and consumers will be basing their purchasing decision on more than just the price of the product.

In this market structure, despite **product differentation**, there still remains a large number of competing business and relative ease of entry into and exit from the market. Accordingly, businesses in these markets make concerted efforts to effectively differentiate their products, and competition commonly occurs via 'non-price' factors, such as advertising, product positioning and location. These businesses will therefore have a greater degree of market power than those businesses operating in a more perfectly competitive market because they are able to justify or 'get away with' charging a higher price for their product.

Oligopoly

An **oligopoly** occurs when a relatively small number of businesses dominate the market and collectively exercise market power by restricting supply and/or raising the price. In markets with an oligopolistic market structure there are typically few buyers and sellers, there are often barriers to entry and exit (such as high set-up costs for new producers) and there is more likely to exist imperfect information such that the suppliers possess significantly more information about products than the buyers do. Examples of oligopoly in Australia include the petroleum, banking, airline, supermarket and mining industries, where a relatively small number of businesses dominate each market.

When only two businesses dominate a market, this is referred to as a **duopoly,** a special type of oligopoly. In Australia, Coles and Woolworths have an effective duopoly in the supermarket industry and Virgin and Qantas have an *effective* duopoly in the airline industry. The presence of several much smaller operators in each of these markets does not preclude the operation of an effective duopoly, since the smaller operators have little effect on reducing the market power, or dominance, of the two main operators. In oligopolistic markets, businesses will tend to avoid engaging in price competition, and instead seek to differentiate their products through marketing and advertising. Businesses in these types of markets will also seek to create additional 'artificial' barriers to entry in order to preserve their market dominance (i.e. market power). This includes strategies such as **multi-branding, exclusive dealing** and **cartel conduct**. [See Section 4.6]

Monopoly

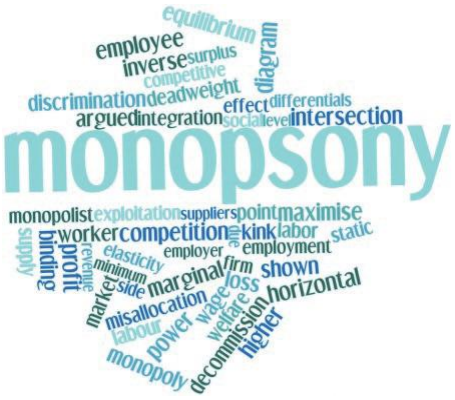
When there is only one supplier in a market it means that a '**monopoly**' exists. The business in a monopoly will have the highest degree of market power and will be able to be a '**price maker**', with maximum control over price and quantities in the market. Monopolies will most often exist in markets where the establishment costs for a business are very high, requiring large scale production to justify investment. This acts as a barrier to the entry for new suppliers and enables the monopolist supplier to control the market.

Industries such as mining and petroleum would naturally tend towards a monopoly market if it were not for government restrictions via the Australian Competition and Consumer Commission. Other industries, like the domestic postal service, have characteristics that make them a '**natural monopoly**'. In the case of Australia Post, this means that it makes economic sense for only one producer to supply the infrastructure necessary to provide postal services across the whole

of Australia. To do otherwise (e.g. have two or more producers) would result in significant duplication, higher per unit costs and higher prices for consumers. In recognition of the benefits to be gained from having just one operator, the government has provided Australia Post with a **legislated monopoly** in the market for standard letters. The government also maintains control over the prices charged by Australia Post to ensure that it is not earning 'supernormal' profits at the expense of consumers. Australia Post is also a **Government Business Enterprise** (GBE) which refers to any business owned a government (in this case, the federal government), and means that profits are retained as part of government revenue and can be spent on provision of goods or services by the government.

In oligopolies and monopolies, suppliers are able to earn supernormal profits over time. This is because they will have sufficient market power to prevent the entry of new suppliers to the market and/or mislead or deceive consumers about the value of products [See Section 4.6]. For example, in late 2021 the Australian Competition and Consumer Commission (ACCC) instigated legal proceedings against three large businesses operating in the telecommunications industry (Telstra, Optus and TPG) for misleading and deceiving consumers about internet speeds, effectively leading to customers paying for NBN plans with speeds that couldn't be delivered. Ultimately, the size, scale and power of large businesses in highly concentrated markets enables them to 'get away with' poor business behaviour that is less likely to exist in a perfectly competitive market structure. This leads to an inefficient allocation of the nation's resources (see Section 4.5), and is a major reason for the existence of laws and regulations (e.g. the Australian Competition and Consumer Act 2010) designed to eliminate anti-competitive behaviour in the economy.

Monopoly power versus monopsony power



The primary objective for businesses is to maximise profits. Given that profits are derived by subtracting expenses (e.g. costs) from revenue (e.g. total sales), businesses will be seeking to maximise revenue and minimise expenses. Dominant firms will therefore exercise their market power in two primary ways, via the use of **monopoly power** or **monopsony power**. Monopoly power is used to 'squeeze' the maximum sum of money from consumers (i.e. maximise revenue). In contrast, monopsony power rests in being the only (or one of very few) purchaser of a product (as an input), and is used to 'squeeze' suppliers as much as possible in order to purchase at the lowest possible cost prices (i.e. minimise expenses).

Businesses exercise 'monopoly power' by manipulating prices in the market for their particular product. A monopoly business will, by definition, face minimal competition in the market for their product and will use its position of market dominance to charge relatively high prices. This also applies in oligopolistic market structures, where businesses will typically seek to use their combined market power to extract the most from consumers. For example, Coles and Woolworths, as an effective duopoly, can exercise their market power by raising prices, knowing that consumers have relatively few alternatives when purchasing groceries. Similarly, the major banks operating in an oligopoly can charge borrowers relatively high rates on housing loans knowing that home loan borrowers also face relatively limited choice.

Businesses can exercise 'monoposony power' if they are the dominant buyer(s) in a particular market. Coles and Woolworths, combined, have monopsony power in the market for many grocery items, including fruit and vegetables. Given that they purchase the bulk of the output from suppliers such as farmers, they have the ability to drive the prices down for many of the items purchased at 'the farm gate'. Many farmers sell predominantly (or exclusively) to the supermarkets and are left with few alternatives, particularly in the short term. Accordingly, they are forced to sell their produce to the supermarket duopolists at very low prices and low margins.

Review questions 4.4

1. Distinguish perfect competition from monopolistic competition.
2. Explain why supernormal profits (i.e. above normal profits) will not be earned in the long run in a perfectly competitive market.
3. Outline why high barriers to entry are likely to mean that a market structure becomes more oligopolistic or monopolistic.
4. Distinguish between a 'price taker' and a 'price maker'.
5. Provide examples of markets in Australia where oligopolies exist.
6. Distinguish a monopoly from an oligopoly.
7. Explain why postal services are often used as an example of a market that has 'natural monopoly' characteristics.
8. Explain why a monopoly is able to earn supernormal profits in the long run.
9. Distinguish monopoly power from monopsony power, using the supermarkets as an example.
10. Explain why businesses in oligopolistic markets are more likely to 'get away with' misleading and deceiving consumers compared to businesses in perfectly competitive markets.

Application Exercise 4h

Copy the table below into your exercise books. The left hand column contains each of the conditions for perfect competition. The right hand columns relate to two markets operating in Australia: the market for bananas sold at the Queen Victoria Market (Melbourne) and the market for domestic air travel.

In each of the blank cells you are required to provide a ranking (1 to 5) for each market in terms of its likelihood of satisfying the necessary conditions for perfect competition. For example, if you believe that the market for bananas is likely to feature lots of sellers, then you should give it a ranking of 5. If you believe that the market for domestic airfares is likely to feature few sellers then you should give it a score of 1.

1. Complete all cells in the table with a score based on the system outlined above.
2. Provide a one sentence reason for the score given in each cell.
3. Add up your scores and award a total score for each market (maximum 30, minimum 0)
4. Based on the scores given (and your reasons provided in 2 above), determine whether each market is more or less likely to be considered perfectly competitive.
5. Based on the scores given, explain which market is likely to feature businesses making 'large' (supernormal) profits.

Extension questions:

6. Outline two separate measures governments could take to make markets more competitive. You can refer to Section 4.6, and Application exercises 4l, 4m, 4n and 4o for ideas)
7. Conduct research on two other markets and use the table to determine the relative degree of market power or market concentration in each market.
8. For the markets researched in question 7, identify one example of a government intervention (e.g. via the Australian Competition and Consumer Commission) that has been designed to reduce the incidence of anti-competitive behaviour. Once again, Section 4.6 later on in this chapter may assist here.

Conditions for perfect competition: bananas and airfares		
Conditions	**Banana market**	**Airline market**
A large number of sellers (are there many competing suppliers of the product?) 5 = lots of sellers, 0 = small number of sellers		
A large number of buyers (are there many potential buyers of the product?) 5 = lots of buyers, 0 = small number of buyers		
Homogenous products (are products very similar in nature or very different?) 5 = very similar, 0 = very different		
Barriers to entry (is it easy to enter the industry?) 5 = very easy to enter, 0 = very difficult to enter		
Barriers to exit (is it easy to leave the industry?) 5 = very easy to exit, 0 = very difficult to exit		
Perfect information (Are consumers aware of 'what they are getting for their money?) 5 = there is no hidden information, 0 = lots of hidden information		
TOTAL POINTS		

The closer a score is to 30, the more closely that market resembles a perfectly competitive market with a low degree of market concentration. The closer a score score is to 0, the more likely it will have oligopoly or monopoly characteristics with a high degree of market concentration.

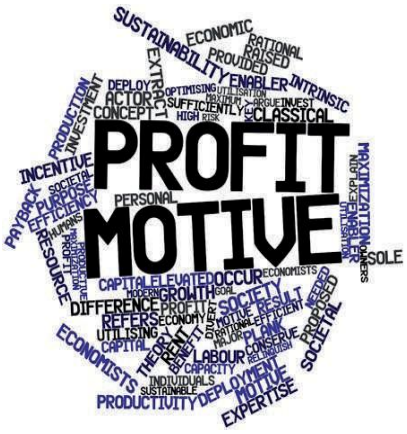
4.5 How market structures affect prices, resource allocation and living standards

Market structure and prices

Already we have discovered that market structures have important implications for the price of goods and services. As a market becomes more concentrated (for example, moving from a more perfectly competitive market to one with monopoly characteristics) there will be a tendency for prices to increase, which then has a macroeconomic effect in the form of higher rates of inflation (rising prices on average over a period of time).

As explained in Section 4.4 above, in perfectly competitive markets, the prevalence of competition forces all suppliers to maintain the lowest possible prices. A supplier will always be motivated to increase efficiency in order to gain a competitive advantage and earn supernormal profits for at least a brief period of time. Other businesses in the industry will eventually be forced to match these efficiency levels or go out of business. The competitive environment will therefore provide constant downward pressure on prices.

The **profit motive** will lead businesses to try their hardest to minimise or even to eliminate competition, which would enable them to raise prices and maximise profits. So businesses operating in competitive markets will try to develop strategies that work to increase their share of the market. The effective use of these strategies can ultimately change the market structure, to the benefit of the business (or businesses) involved and to the longer term detriment of consumers. To illustrate, a business operating in a relatively competitive market might be able to use advertising and marketing methods effectively in order to convince consumers that their product is genuinely unique. At the same time, they might use competitive tactics that undermine competitors and/or gain such a powerful position in the market place and 'gobble up' competitors via takeovers. This means that what was once a relatively competitive market becomes less competitive, with a dominant business (or businesses) able to exercise market power and raise prices. This is an important reason for the establishment of the government's competition regulator, the ACCC, which seeks to guard against **anti-competitive behaviour** and the abuse of market power.



In summary, markets characterised by high degrees of competition will tend to result in lower prices of goods and services and therefore lower rates of inflation. In contrast, more concentrated markets, involving a relatively high number of oligopolies or monopolies, will tend to result in higher prices and therefore higher rates of inflation.

Market structures and resource allocation/living standards

As discussed in earlier chapters, **resource allocation** refers to how the nation's productive resources (or factors of production) such as land, labour and capital, are used in the economy. Every country's government wants to ensure that their nation's resources are used in the best possible way. What is considered 'best' will vary from country to country, but it is reasonable to argue that in Australia the best allocation of resources involves all resources being used in combinations that result in the highest possible level of economic welfare or national living standards (both material and non-material) for Australians. This will necessarily involve all of our resources being used in the production of goods and services that together yield the maximum **net benefits** for Australians. This means that **allocative efficiency** is attained and the nation is achieving the most '**efficient allocation of resources**'.

Study tip

In Economics, the word 'net' is often used to more accurately describe the outcome stemming from two opposing forces. It commonly describes the end result after deducting the negatives from positives. In the current context, net benefits equates to the total benefits minus the total costs.

In a perfectly competitive market, resources will be allocated in the most efficient way in the sense that prices will be at the lowest possible levels for consumers, producers are not making 'excessive' profits, and consumers are not paying 'excessive' prices. Exactly the right amount of resources (such as labour and capital) are being allocated to produce the goods and services wanted by consumers. In this respect, competitive markets are extremely efficient at satisfying the demands of consumers when compared to more concentrated market structures. This means that perfectly competitive markets will achieve a more efficient allocation of resources because it maximises the collective satisfaction of consumers. Businesses will be under constant pressure to provide consumers with goods and services of the highest possible quality and at the lowest possible price. To do otherwise would result in a business losing market share to a rival business. In this respect, perfectly competitive markets will tend to maximise **technical efficiency**, which occurs when the production of goods and services in the economy occurs at the lowest possible costs.

The constant pressure on businesses in perfectly competitive markets to cut costs, reduce prices and maximise efficiency does have its disadvantages. These businesses might be under more pressure (compared to a monopoly producer) to 'gain an edge' by engaging in practices that are damaging to the environment (e.g. contribute to the depletion of our natural resources or damage the environment more generally) or engage in 'unethical' business practices (e.g source 'child labour' from third world countries or exploit immigrant labour). In this respect, competitive markets can contribute to a deterioration of (non-material) living standards. For example, in 2022 the results of a University of NSW survey were revealed, indicating that international students (who form part of the migrant workforce in Australia) were paid at rates considered to be exploitative. This included evidence of one in four earning less than half the minimum casual hourly wage, with 90% of these workers being reluctant to speak up for fear of losing their job. This not only affects the employees, but also those competing businesses doing the right thing by paying workers their legal entitlements.

The high degree of competition that exists in perfectly competitive environments is unlikely to be maintained over time as some businesses naturally begin to gain an edge over their competitors and achieve some degree of market dominance. This means that there is a tendency for markets to become relatively less competitive over time as some businesses manage to innovate more effectively than others or engage in activities (e.g. product differentiate) that help it to achieve some market dominance. As discussed earlier, this inevitably leads to the presence of a more concentrated market structure and is a major justification for government intervention that is designed to promote a more competitive environment.

The existence of oligopolies or monopolies can lead to net costs for society if the dominant business(es) in these markets abuse their market power by restricting supply in order to raise prices. This means that businesses are making excessive profits, consumers are paying excessive prices and too few resources are being allocated to the production of that particular product. In short, a more concentrated market structure is likely to result in an **under-allocation** of resources to the production of that particular product. In the absence of the oligopoly or monopoly, there would be some producer(s) in the market place willing to supply the product at a lower price, enabling greater consumer demand and resulting in more consumers being satisfied. Consequently, a more concentrated market structure will not maximise living standards and will fail to achieve the 'most efficient allocation of resources'. In other words, monopolies and oligopolies are less likely to result in **allocative efficiency** being achieved in any economy in comparison to perfectly competitive or monopolistically competitive market structures.

Study tip

In Economics, the practice of businesses exerting market power and charging monopoly prices results in a 'consumer surplus' being replaced by a 'producer surplus'. However, a more technical analysis of the nature of consumer and producer surpluses is beyond the scope of this text.

However, the existence of an oligopoly or even a monopoly in itself might not always lead to the emergence of net costs for society. A monopoly supplier, for example, will often be advantaged by its large size, permitting lower average costs of production compared to the situation that would exist with several smaller producers supplying the market. These lower costs might permit the monopolist to charge relatively lower prices and still make supernormal profits. For example, the **'natural monopoly'** enjoyed by Australia Post enables consumers to enjoy lower prices than would be the case if several independent suppliers provided the same service. [However, this outcome in Australia is also guaranteed by government ownership. Without this condition, there is little doubt that postal charges would be higher than they are today.]

Review questions 4.5

1. Explain why prices are likely to be lower in perfectly competitive markets.
2. Explain why prices are likely to be higher as market concentration increases.
3. Distinguish 'benefit' from 'net benefit'.
4. Explain why the existence of oligopolies or monopolies can lead to 'net costs' for society.
5. Explain why competitive markets are most efficient at satisfying consumers.
6. Explain which market structure(s) are likely to be superior in terms of 'allocative efficiency.'
7. Explain which market structure is likely to be superior in terms of 'technical efficiency,' and discuss whether monopolies will always be least efficient.
8. Explain how highly competitive markets could lead to undesirable outcomes for living standards.
9. Explain why markets can tend towards higher levels of concentration over time.

Application Exercise 4i: Farmers' markets

The answer to the supermarkets exercising market power?

'Farmers' Market' is a basket term for predominantly fresh food markets that operate at various spots around Australia. Farmers' Markets provide a means by which farmers and food producers can sell directly to customers. This effectively enables consumers to purchase fresh produce at the lowest possible prices and farmers to sell their produce at the highest possible prices. The profits or margins that would otherwise be 'captured' by the big supermarket chains will now be enjoyed by both farmers and consumers. In essence, the increased popularity of farmers markets helps to limit the extent to which Coles and Woolworths can exercise market power (both monopoly and monoposony). If they continue to squeeze farmers, it will only increase incentive for farmers to supply their products at farmers' markets. Similarly, if they continue to charge excessive prices to consumers, it will increase the incentive for consumers to avoid the supermarkets when purchasing fresh produce and instead source their supplies from farmers' markets.

Farmers' markets have grown in popularity, with the number of markets in Australia increasing significantly over recent years The increasing popularity of these markets provides a perfect illustration of the workings of the price mechanism and natural market forces working to overcome the power exercised by dominant businesses in the economy.

***Source**: http://www.farmersmarkets.org.au*

Questions

1. **Define a farmers' market.**
2. **Discuss how the emergence of farmers' markets can be partly explained by the market power exercised by the large supermarket chains.**
3. **Explain how farmers can benefit by supplying their produce at farmers' markets.**
4. **Explain how consumers can benefit by purchasing their produce at farmers' markets.**
5. **Explain how Coles and/or Woolworths may suffer from the increasing popularity of farmers' markets and discuss the implications for the prices of fresh produce more generally.**

Application Exercise 4j: Spooksy's supermarket

William and Cameron Spooks have just inherited $1m each and are keen to establish a business together. They are considering the options available and believe that establishing a supermarket would be a good idea given the reports of the high profitability of the major players Cales and Walewiths. After doing their sums and borrowing an additional $2m from a major bank, they establish a medium-sized supermarket in Elsternwick, which they call Spooksy's supermarket. The business is literally 500 metres from both Walewiths on one side and Cales on the other side. They stock most of the major brands being sold at other supermarkets, but find that the cost price (the price they pay to their suppliers) for many items is very close to (and in some cases higher than) the retail prices charged by Cales and Walewiths. They price their products at a relatively low mark up of an average 10% on most of their stock, but still discover that they are barely making a profit.

After being in business for a couple of years and earning minimal profits, the Spooks brothers learn that both Cales and Walewiths have started to sell milk and bread for $1, which is below what it costs Spooksy's supermarket to buy their stock. This draws customers away from Spooksy's, and eventually the brothers are forced to match the $1 price for bread and milk. To prevent losses, they increase the price of other items, which in turn draws customers away to their rivals.

Over time, Spooksy's supermarket makes significant losses and eventually the brothers are forced to close the business. Gradually, the supermarket industry becomes even more concentrated, with all of the independent retailers, such as Spooksy's, exiting the market. With no competitors left in the market, Cales and Walewiths increase the prices for bread and milk to approximately $3 and there are reports that Cales is on the verge of mounting a takeover bid for Walewiths, paving the way for complete dominance of the industry.

Several months after they have exited the supermarket business, Cameron and William notice that prices being charged for a one hour massage have risen on average from $50 to $60. They then decide to undertake a four month

course in remedial massage techniques in preparation for a new business venture in the future. They realise that it is very easy to enter the market as a supplier of massage services but also appreciate that they won't necessarily be making very high profits.

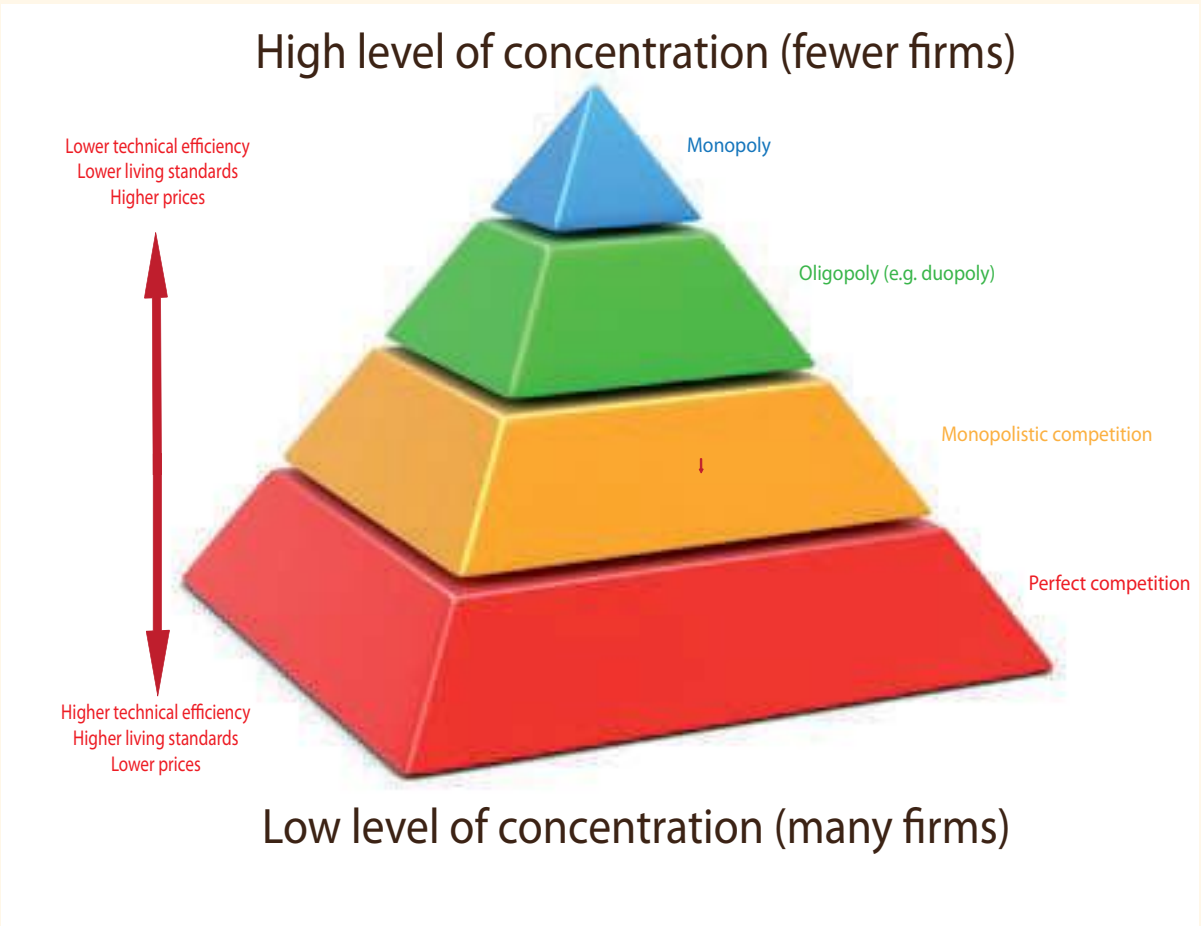
Questions/tasks:

1. **Discuss the factor motivating Cameron and William to establish a supermarket.**
2. **Identify the market structure that existed in the supermarket industry when Spooksy's was in operation.**
3. **Outline a possible reason for Spooksy's supermarket purchasing some stock at prices above the selling price at Cales/Walewiths.**
4. **Explain why Cales/Walewiths might have reduced the price on bread and milk to below cost price.**
5. **Explain why the brothers eventually closed the business.**
6. **Explain why Cales and Walewiths were able to raise prices for bread and milk to relatively high levels.**
7. **Explain how the market structure in the market for grocery items is likely to change following a successful takeover of Walewiths by Cales, and discuss the implications for prices of grocery items.**
8. **Outline whether you believe there is a role for the government to prevent Cales becoming a monopoly supplier in the market for grocery items.**
9. **Outline the motivating factor behind brothers' decision to enter the massage market.**
10. **Discuss why the massage industry is less likely to be oligopolistic compared to the supermarket industry.**
11. **Determine whether the market structure in the massage market is likely to reflect perfect competition or monopolistic competition.**
12. **Explain why Cameron and William do not expect to make very high profits in the massage market.**

Application Exercise 4k: Benefits of lower concentration

Based on the information contained in the diagram below, discuss whether the government should increase efforts to break up monopolies and promote competition in Australian markets. Refer to the relationship between each of the following:

- **market structure and concentration levels**
- **concentration levels and efficiency in the allocation of resources**
- **concentration levels and prices**
- **concentration levels and living standards**



4.6 Strategies businesses employ to increase profitability

In Economics, it is assumed that all businesses are motivated by profit. This means that, regardless of the market structure that exists, all businesses will seek to maximise revenue and minimise expenses. Every day, businesses will endeavour to increase their share of the market via the implementation of various strategies designed to boost revenue or sales. Most of these strategies are developed as part of the overall marketing plan of the business and will include the following types of strategies that have already been considered earlier in the chapter:

- Advertising particular products in the market place (such as advertisements on TV, radio, internet and in newspapers)
- Advertising the 'brand' in various ways (such as product placement in films or brand promotion on billboards)
- Positioning products in discrete locations or positions (such as confectionary companies ensuring that their products feature prominently in supermarkets)
- Locating the business in exactly the right position (such as McDonald's ensuring that their stores are positioned in high traffic areas)
- General promotion of the product or brand, such as contributions to charitable organisations, sponsorship of events or sporting teams and reward or loyalty programmes

Study tip

The advertising/promotion of a product is quite distinct from the promotion of the brand. Apple Inc. promotes the Apple brand, with the now-famous symbol of the partly-eaten Apple. Its placement in various mediums is purely designed to promote the Apple brand and remind or persuade consumers that Apple products are both available and widespread. In contrast, Apple advertises particular products, such as the iPhone X, with the intention of generating sales for that particular product.

The strategies listed above focus on increasing sales or revenue. However, any business will also be concerned about achieving the best possible value from any expenditure it undertakes. So in its desire to minimise expenses, a business will seek to achieve the most cost-efficient method of production. This will often include the following types of strategies, some of which have also been considered above::

- Sourcing the highest quality supplies at the lowest cost
- Investing the optimal amount of funds in physical capital (e.g. purchasing highly efficient technology or machinery)
- Investing in human capital (e.g. training employees or employing highly skilled employees)

Strategies to boost sales and minimise expenses have the overriding objective of increasing the '**scarcity value**' of a business' products. In other words, businesses are keen to persuade or convince consumers that their product is both desirable and unique - to the point that it is better than alternative products offered by competitors. The greater the success of these strategies, the greater is the likelihood that a business is able to develop market power, thereby becoming a 'price maker' rather than a 'price taker'. At the extreme, it is possible for a business to commence operations in a competitive market, but to subsequently become so successful with profit maximising strategies, that it eliminates its competitors and enjoys the benefits of becoming a monopoly supplier in the market place.

In addition to the above strategies, businesses will sometimes employ more subtle strategies to win market share, some of which are legal and some of which are illegal under Australian competition laws. Examples of legal strategies include **price discrimination** and **multiple branding**, while examples of illegal (anti-competitive) strategies include **predatory pricing** and **cartel conduct**.

Price discrimination

Price discrimination involves a business charging consumers different prices for the same product. It enables businesses to maximise revenue by imposing a higher price for 'high value' customers (namely those with the ability and preparedness to pay more) and a lower price to 'low value' customers (namely those unable or unwilling to pay a higher price). Price discrimination relies, however, on a business being able to distinguish those customers prepared to pay more from those prepared to pay less. In addition, they must be able to prevent consumers from buying at a low price and selling to other consumers at a higher price. As a result, in most cases business cannot do these things and will simply charge one price for all customers.

If businesses possessed **perfect information**, particularly about their customers' willingness to pay, the profit-maximising pricing strategy would be one where the price charged was unique for each customer, such that each customer was charged a price identical to what they were prepared to pay. In other words, each customer would pay exactly the value they place on the product and there would be no consumer enjoying the benefit of paying less than they would be prepared to pay. Instead, the benefit is absorbed by the producer who ends up receiving more than they were prepared to receive on the market.

Study tip

The practice of being able to charge each customer exactly what they are prepared to pay is technically referred to as first degree price discrimination where the 'consumer surplus' is transferred to the producer in the form of an increased 'producer surplus'. However, this is beyond the scope of the Unit 1 course.

Clearly, businesses don't possess perfect information about consumer preferences, and they find it virtually impossible to impose individually tailored prices. However, rapid advances in technology are enabling businesses to develop consumer profiles that help them to effectively price discriminate. The more information businesses have about a consumer's income levels, their age, likes and dislikes among other factors, the greater the ability of the businesses to target consumers with specific offers. For example, a higher income earner in the middle age bracket is more likely to receive an offer to buy a product from Amazon.com at a higher price, compared to an offer to buy the same product when targeted at a lower income earner in a younger age bracket.

Examples of price discrimination in action are quite common, and include discount tickets to events offered to pensioners or students. These two groups are typically lower income earners who would be unwilling (or unable) to pay a high price. To maximise revenue, businesses will try to extract a premium from most customers by charging them full price. They will then boost this revenue with extra sales from lower value consumers, since these customers would not have been as likely to buy the product at the original price. [See Application Exercise 4l on cinema tickets]. Similarly, the airline industry price discriminates by offering 'early bird discounts' or 'cut price fares' on certain flights. They will do this for a small percentage of seats on those flights unlikely to be filled by full-fare paying customers. Price conscious consumers (or the 'low value' consumers with a reduced willingness or ability to pay full prices) will tend to snap up these tickets, resulting in a decreased likelihood of empty seats on any given flight. This explains why airlines will occasionally advertise domestic airfares for as low as $1. They do this because it is better to earn some revenue rather than zero, particularly when the customer may purchase other goods while using the service, such as food or excess baggage charges on flights, or even a return flight at a higher price.

Sometimes, price discrimination will rely on the buyer revealing their choices to the seller, making it clear that they are not prepared to pay the quoted price for the product by asking for a discount or a reduced price. In this case, the buyer is signalling that they are a 'lower value' consumer and will only purchase the product if the seller is prepared to accept a smaller 'profit'. This type of price discrimination occurs in markets and retail outlets every single day and is an effective way for consumers to 'get a good deal' at the same time that businesses maximise profit.

Multibranding

Multibranding is defined as individual companies marketing their products under separate and distinct brand names. There are some common examples, such as the Coca-Cola company producing numerous soft drink brands (including Coke, Fanta and Sprite), Cadbury producing a number of chocolate brands (including Flake, Dairy Milk and Roses) and Kellogg's producing various brands of cereal (including Cornflakes, Special K and Rice Bubbles).

What is the point of multibranding? Put simply, it is another effective profit-maximising strategy that is commonly employed by larger corporations. It has the key advantage of increasing the number of products that business has in any particular market, thereby making it more difficult for new businesses to enter the market. A new business will not only find it difficult to attract new customers in a market flooded with different brands, it will also find it difficult to attract appropriate shelf space on supermarkets already crammed with multiple brands. In this respect, the strategy helps to create a '**barrier to entry**' into the market, which serves to increase the market power of those businesses engaged in multibranding. It has the added benefit of catering to customers that are notorious 'brand switchers' as well as generating competition among different divisions within the company, which helps to improve both efficiency and quality.

Increasingly, businesses supplying branded products will also supply the same product to the market place 'unbranded', also known as a 'generic' form of the product. The most common examples relate to plain labelled or 'no name' food items at supermarkets. This enables the manufacturers to tap into the benefits of 'multi-branding', while at the same time, reaping some of the benefits of price discriminating. While it is true that not all plain labelled or 'no name' products are identical to their branded counterpart, there are many examples of branded products that are identical to plain brand labelled or 'no name' products, except for the label itself. The manufacturer gains in this instance because multibranding enables it to sell essentially the same product at different prices, absorbing more of the 'consumer surplus' from 'high value' customers (see the section on Price Discrimination above).

Application Exercise 4l: price discrimination at cinemas

The purchase of cinema tickets is an example often used to describe price discrimination in the real world. If we assume that a cinema has 300 seats, the cinema would love to have every one of these 300 seats filled for every movie. It could certainly achieve this if it set a very low price of $1.00 per ticket. However, this would most likely incur losses and would be a poor decision. Equally, it could charge $20.00 per ticket, which would result in less demand and perhaps a sale of 150 tickets. While this would result in significantly more revenue ($3,000 compared to $300 for the 300 seat theatre), it is still unlikely to be a profit-maximising pricing decision. The cinema operator will be aware that there are some customers who would be prepared to pay $15 or more to watch a movie and many that would be prepared to pay only $10 or less. If we assume that the cost for the cinema operator to run a movie in the cinema was $1,500 (which equates to $5 per seat), then it makes good business sense to fill the seats with as many people prepared to pay $15 and sell the remaining seats for $10. But how does the cinema operator discriminate and charge a relatively low price for one group of customers and a high price for another? The cinema operator does this through the offer of discounted tickets for pensioners and students.

To demonstrate how this maximises revenue and profit, some hypothetical figures will be used.

Price discrimination at cinemas

Strategy	Pricing	Price discriminating	Price charged (1)	Estimated demand (2)	Total revenue (1) X (2)
1	$15 per ticket	No	$15.00	200	$3,000.00
2	$10 per ticket	No	$10.00	300	$3,000.00
3	$12.50 per ticket	No	$12.50	250	$3,125.00
4	$15 per ticket (adults) $10 per ticket (pensioners/ students)	Yes	$15.00 $10.00	200 100	$3,000.00 $1,000.00 $4,000.00

While these are clearly hypothetical figures, they show how the principle of price discrimination works. The cinema has four pricing strategies to choose from. The **1st strategy** involves no price discrimination and a flat $15 price. This would only create demand for 200 seats and generate $3,000 of revenue. The **2nd strategy** involves a flat $10 price and is designed to generate more ticket sales. While it does create additional sales numbers, filling the cinema, it generates the same total revenue. Note that the 200 people who were prepared to pay $15 are now only paying $10. In this respect, these consumers are each gaining a $5 surplus (called a consumer surplus) and producers have forgone the opportunity to extract some, or all, of this surplus for themselves. The **3rd strategy** also involves a flat price, but one in the middle, at $12.50. This works to generate more revenue, however, it is still not the best pricing strategy because the business is not extracting all of the consumer surplus from the 'high value' consumers who were willing to pay $15 per ticket. The **4th strategy** is the best one because it enables the cinema operator to effectively separate different types of consumers and price the tickets accordingly. The full ticket price of $15 will apply to all consumers, except a lower price of $10 will apply to those who (on the face of it) have a reduced capacity to pay (or who are unwilling to pay the full price). Price discriminating in this way increases revenue significantly, from $3,125 to $4,000. The cinema operator is able to extract more of the 'surplus' that would otherwise have been received by consumers. In effect, the consumer surplus has been converted into a producer surplus.

Questions

1. **Explain how price discrimination can be applied at cinemas.**
2. **Discuss how a cinema might prevent purchasers of discounted tickets from selling them at a price above the discounted price but below the full price.**
3. **Explain how the cinema can suffer if it prices tickets at $10 and not $15, despite generating the same revenue ($3,000).**
4. **Explain how the cinema might benefit if it prices tickets at $10 and not $15. (Hint: there are an additional 100 cinema goers in the complex.)**
5. **Explain how the cinema was able to generate $875 more revenue by adopting pricing strategy 4 as opposed to pricing strategy 3.**
6. **Extension: Explain how pricing strategy 4 involves a reduction in the 'consumer surplus' and an increase in the 'producer surplus'.**

Anti-competitive strategies: Predatory pricing and cartel conduct

The government is quite active in the economy to minimise the existence of **anti-competitive behaviour** by businesses. The government has established competition laws that are set out in the Australian 'Competition and Consumer Act (2010)', formerly known as the 'Trade Practices Act (1974)'. The current Act is policed by the **Australian Competition and Consumer Commission (ACCC)** and, in short, is designed to promote competition and eliminate any behaviour that is deemed to be 'anti-competitive' to the detriment of consumers and society more generally.

While there are numerous examples of anti-competitive behaviour, we will examine three strategies that are sometimes used, particularly by businesses with market power, that are designed to minimise or eliminate competition – predatory pricing, cartel conduct and exclusive dealing. [More detail about the various types of anti-competitive behaviour is available at the ACCC website: www.accc.gov.au.]

Predatory pricing

According to the ACCC, **predatory pricing** occurs when a company sets its prices at a sufficiently low level with the purpose of damaging a competitor, or forcing a competitor to withdraw from the market. Once the competitor is eliminated, the company is then able to dominate the market, exercise a greater degree of market power and raise prices to the detriment of consumers and society. In effect, the company is behaving like a predator, seeking out and eliminating or devouring its competitors. In a competitive sense, this is normal profit-maximising behaviour of businesses, and would exist regularly if it were not for government intervention.

Predatory pricing can be very difficult to prove because the act of pricing in a predatory way depends on the *intent* of those in the company making the pricing decisions. For example, it is normal for businesses to compete on price, and a large corporation might seek to pass on to consumers the advantages it gains from being able to achieve bulk discounts from suppliers. They would do this in the form of lower prices. Economists refer to this as a 'scale advantage' or benefits derived from **'economies of scale'**. This strategy is simply an attempt by the company to use its buying strength to gain a competitive market advantage. However, if the decision to reduce price to a low level was a conscious decision to eliminate a competitor, then this is considered 'anti-competitive' and is illegal under Australian law.In some cases, businesses will reduce their price below cost when seeking to prevent the loss of their market share. If so, it is likely to signal that the intention of the business was to eliminate a competitor. The ACCC would then be likely to launch an investigation under **section 46 of the Competition and Consumer Act.**

An example of alleged predatory pricing relates to the alleged behaviour of the dominant Australian supermarkets over 2015-16. Coles and Woolworths reduced the prices of bread and milk to a low of $1.00. Being everyday items for households, which are called 'staples', they are considered two of the key products attracting customers to smaller retailers, such as small supermarkets and milk bars or corner stores. The extremely low prices for bread and milk could have the effect of driving smaller retailers out of the market, enabling Coles and Woolworths to enjoy greater market dominance. If the ACCC could prove that the intent (at the time) was to eliminate competition, Coles and Woolworths would be guilty of predatory pricing and would face stiff penalties. The ACCC eventually withdrew its allegation due to insufficient evidence. [See Application Exercise 4m which examines the 2016 changes to s46 which will make it easier for the ACCC to prosecute larger businesses engaging in predatory pricing.]

Cartel conduct

A **cartel** is defined as two or more businesses joining forces to maximise profits. It means that they agree not to compete against each other and instead develop joint strategies to manipulate the market at the expense of consumers. Cartel conduct includes the following types of agreements.

- Agreements to fix or lift prices in unison so that consumers have fewer alternatives available when purchasing goods and services.
- Agreements to share or allocate customers and to divide the market into various areas or simply agree not to poach one another's customers, leaving consumers with less choice in the market place.
- Agreements that effectively rig the bidding process so that contracts are shared by members of the cartel. For example, both companies may agree to take it in turns, with one company bidding with an extremely high price to ensure the contract is offered to the other bidder, with 'the favour' being returned for the next contract.
- Agreements to restrict supply to the market in order to drive up prices for both businesses.

Cartel conduct will mostly occur in highly concentrated market structures, such as an oligopoly or duopoly. These markets involve a very small number of producers, and this would make the kind of cartel behaviour listed above more manageable. A high-profile example relates to the alleged cartel conduct by egg producers. The ACCC initiated legal proceedings in 2014, alleging that producers collectively restricted the supply of eggs on the market in order to raise the price of eggs. The case was rejected by the Federal Court in early 2016 and was immediately appealed by the ACCC.

Despite forthright arguments by the ACCC, and the imposition of a pecuniary (monetary) penalty of $120,000 on the managing director of 'Farm Pride' (for an attempt to induce a cartel arrangement between competing egg producers) the appeal was dismissed by the Full Federal Court in late 2017.

Exclusive dealing

Exclusive dealing occurs when a business engages in contractual dealings with clients (e.g. customers or suppliers) with the express purpose of restricting the ability of the client to engage in business dealings with its competitors. This has the effect of reducing the ability of the business's competitors from attracting sales and is against the law if it substantially lessens competition in that particular market. This type of anti-competitive behavior might involve a business offering a discount to a customer on the condition that the customer does not engage in dealings with a third business, or it might involve a business refusing to purchase a good or service from a supplier who refuses to agree to terms that are disadvantageous to a third party competitor. For example, In March 2022 the ACCC ordered the large Australasian Food Group, trading as Peters Ice Cream, to pay a $12 million penalty for engaging in anti-competitive conduct in relation to the distribution of ice creams sold in petrol stations and convenience stores. Peters entered into an exclusive deal with a distributor designed to prevent the distributor from supplying ice creams produced by rival ice cream manufacturers.

Application Exercise 4m: s.46 of the Competition and Consumer Act 2010

In its 'Guidelines on misuse of market power', the ACCC highlights that markets function best when firms strive to develop and offer products that are more attractive to customers than the products offered by their rivals. A firm with substantial market power may be able to damage this competitive process by preventing or deterring rivals, or potential rivals, from competing on their merits. That is, a firm with substantial market power may maintain or advance its position by restricting or undermining its rivals' ability to compete, rather than by offering a more attractive product. Sometimes this is referred to as 'exclusionary conduct' and such conduct undermines the effective operation of markets and the economy. Accordingly, ACCC plays an active role in discouraging anti-competitive behaviour, particularly the misuse or abuse of market power as set out in Section 46 of the Competition and Consumer Act 2010 (CCA).

Section 46 prevents firms with substantial market power from engaging in conduct that has the '**purpose, effect or likely effect' of substantially lessening competition in a market**. The ACCC points out that section 46 does not prohibit a firm from obtaining a substantial degree of market power. Nor does it prohibit a firm with a substantial degree of market power from 'out-competing' its rivals by using superior skills and efficiency to win customers at the expense of firms that are less skilful or less efficient. It acknowledges that this conduct is part of the competitive process, driving firms to improve their performance and develop products that are more attractive to customers, and should not be deterred. Predatory pricing is a good example of the type of anti-competitive behaviour that contravenes section 46 and in its publication, 'Guidelines on misuse of market power', the ACCC refers to a hypothetical example relating to the market for advertising space in a regional town.

Hypothetical example of predatory pricing

A firm publishes the only newspaper in a major regional town. The firm provides the newspaper for free and has built up a substantial readership through its focus on local news and events. The firm attracts substantial revenues from local businesses who advertise in the newspaper and earns substantial profits. Most local businesses consider it essential to advertise in the newspaper. A new entrant commences publishing a competing regional newspaper and offers advertising rates comparable to those offered by the firm. The new entrant starts to win some advertising sales from the firm. The original firm reduces its advertising rates for all of its customers to less than 50 per cent of the rates offered by the new entrant. At the new advertising rates, the firm does not cover its costs of printing and distributing its newspaper. The firm's board documents indicate it is willing to incur these losses to reinstate its position as the sole regional newspaper and the profits that position generates. The new entrant is unable to attract sufficient advertisers and closes its newspaper. After the closure, the firm raises its advertising rates to their original level.

It is likely that the firm has a substantial degree of market power. Being the only regional newspaper has enabled the firm to build a substantial readership. Advertising in the newspaper is the most effective way for local businesses to reach local residents, and there are no close substitutes available. The firm's reduction in advertising rates was substantial. The reduced rates were substantially below those offered by the new entrant and were not sufficient to cover the costs of printing and distributing the newspaper. The reduced advertising rates were not a short-term offer, lasting until the rival newspaper closed. The financial losses made by the firm during this period were substantial. The firm had the purpose of forcing the rival newspaper to close and prevent it from competing on its merits. In reducing its prices, the conduct had the purpose, effect or likely effect of substantially lessening competition. The ACCC is of the view that the conduct is likely to breach s.46.

Source: https://www.accc.gov.au/publications/guidelines-on-misuse-of-market-power

Questions

1. Describe how anti-competitive conduct might slow the entry and expansion of new and innovative firms, delay the entry of new technologies into Australia and impede economic growth in the long term.
2. Describe how 'exclusionary conduct' can undermine the effective operation of markets.
3. Describe how the new wording of section 46 makes it easier for the ACCC to prosecute larger businesses who engage in predatory pricing.
4. Explain how the pricing decisions of large businesses is likely to change as a result of s46 becoming law.
5. Explain how small businesses and consumers might benefit under the new provisions of s46.
6. Referring to the hypothetical example, explain why the conduct of the regional newspaper is likely to contravene section 46.

Application Exercise 4n: Predatory pricing in the airline industry?

An example of alleged predatory pricing behaviour relates to the introduction in late 1990 of the new airline, Compass, to compete in the domestic airline market. The market was dominated at the time by two airlines - Ansett and Australian Airlines. These two airlines enjoyed a cosy duopoly (the market had only two producers) and were making healthy profits. The intention of Compass was to enter the market and offer a 'no frills' type of service, catering in particular to the domestic leisure traveller. It offered fares of between 20% to 50% cheaper than the two existing airlines, seeking to both expand the size of the market, by luring leisure travellers away from interstate coaches and trains, and to take a small slice of the market away from Ansett and Australian Airlines. Over the course of 1991, the three airlines engaged in what became known as 'price wars', initially sparked by Ansett offering discounts of up to 60%, which were then matched by both Australian and Compass. Prices continued to fall, creating losses for all three airlines over this period, before Compass eventually pulled out of the market, unable to sustain the losses, unlike its more powerful rivals. The market therefore returned to a duopoly, permitting Australian Airlines and Ansett to lift prices once more.

The behaviour of Ansett and Australian Airlines was investigated by the Government's competition regulator at the time. It was, however, unable to prove that the two airlines had engaged in predatory pricing – to the surprise of many economists and commentators!

Questions

1. **Identify Compass' objective when entering the market in 1990.**
2. **Define the term 'price war', and provide a possible explanation for the three airlines engaging in a price war over the period discussed in the case study.**
3. **Explain why Compass was the only airline to effectively 'go broke' at this time, forcing it to exit the industry.**
4. **Provide a possible reason for the government being unable to prove that Ansett and Australian Airlines engaged in predatory pricing.**

Application Exercise 4o:

'THL's proposed acquisition of Apollo raises preliminary competition concerns'

On the 28th of April 2022, the ACCC outlined preliminary competition concerns with THL's proposed acquisition of Apollo in the tourism industry. Both businesses are involved in the rental, sale and manufacture of recreational vehicles (RVs), such as motorhomes and campervans. THL owns the rental brands Maui, Britz and Mighty Camper, while Apollo owns the brands Star RV, Apollo, Cheapa Campa and Hippie Camper. The acquisition of Apollo will remove THL's closest and largest competitor for motorised RV rentals in Australia. Market feedback indicates that THL and Apollo are by far the two largest suppliers in this market. ACCC Commissioner Stephen Ridgeway said that:

> *"Market feedback also indicates that other RV rental suppliers lack the scale to replace the competition lost by Apollo being acquired," …"Furthermore, our inquiries have not identified that new entry or expansion by other RV suppliers is likely to provide a strong competitive constraint on a combined THL and Apollo."*

The ACCC is also examining the extent to which peer-to-peer platforms compete with traditional RV rental suppliers. Peer-to-peer networks provide platforms for private RV owners to offer their RVs for rent. Examples of peer-to-peer networks include Camplify, Camptoo and Outdoorsy. THL would have a minority share in Camplify following the acquisition. Stephen Ridgeway went on to say:

> *"Our review to date has found that peer-to-peer platforms do not currently provide a strong constraint on traditional RV rental suppliers," …"As a result of market feedback so far, we are concerned that consumers may end up paying more to rent RVs, or receive lower quality and service, as a result of the proposed acquisition."*

On 29 September 2022, the ACCC decided to not oppose THL's proposed acquisition of Apollo, subject to the ACCC accepting a court-enforceable undertaking that requires Apollo to divest a large proportion of its motorhome fleet.

Source: https://www.accc.gov.au/media-release/thls-proposed-acquisition-of-apollo-raises-preliminary-competition-concerns

Questions

1. **Explain what is meant by an acquisition in the context of the information above, making reference to the terms merger and takeover.**
2. **Explain why the ACCC is concerned about the proposed acquisition. In your response, examine the effects on competition and economic efficiency.**
3. **Describe the role of peer-to-peer platforms in providing effective competition to the newly merged entity.**
4. **From the point of view of consumers, discuss a cost and benefit from the acquisition taking place.**
5. **Justify the ACCC's final decision handed down on 29 September 2022).**

Review questions 4.6

1. Discuss three possible strategies, apart from price discrimination, that could be used by a business seeking to maximise profits.
2. Define price discrimination and discuss how it can be a profit maximising strategy.
3. Discuss how the airline companies effectively use price discrimination as a means of maximising profit.
4. Define the term multibranding, providing some examples to illustrate, and explain how multibranding can help a company to maximise profits.
5. Explain how plain label ('homebrand') goods are an example of multibranding in action, and discuss how the provision of plain label goods allows businesses to tap into the benefits of price discrimination.
6. Explain why predatory pricing, cartel conduct and exclusive dealing are considered examples of anti-competitive business strategies.
7. Describe how the government attempts to reduce incidences of anti-competitive behaviour and explain how this intervention can help to achieve a more efficient allocation of resources.

4.7 Multiple choice review questions

1. Which of the following conditions are not consistent with a market that is perfectly competitive?
a) businesses sell homogeneous or identical products
b) there is a high degree of mobility of businesses
c) few buyers and sellers
d) no individual seller can influence the market price

2. Which of the following is likely to exist in a perfectly competitive market?
a) A small number of buyers and sellers
b) High set up costs
c) Homogenous products
d) High barriers to entry and exit

3. A large barrier to entry associated with entering the oil industry would be:
a) The fact that oil produced by different companies is not easily differentiated
b) The higher interest rates in the economy
c) Large expenditure on capital equipment is required to establish an oil company
d) The high taxes paid to the government

4. Which of the following policies would make Australia's financial sector more competitive?
a) Banning exit or switching fees that are charged to customers wishing to transfer their loan to a rival institution
b) A government guarantee of deposits in banks, but not other financial institutions
c) Increasing the regulation on financial institutions
d) Making it more difficult to obtain a banking license from the government

5. Which of the following market structures is likely to result in the lowest prices?
a) Monopoly
b) Perfect competition
c) Monopolistic competition
d) Oligopoly

6. Which of the following is unlikely to result from a more competitive environment?
a) Business closures are likely to be lower
b) Businesses will compete on price and only 'normal' profits are likely to be earned
c) Productivity within the industry is likely to be higher
d) It will be relatively easy for new start-up businesses to enter the market

7. Which of the following market structures should result in the least pressure on businesses to be efficient?
a) Perfect competition
b) Oligopoly
c) Monopoly
d) Duopoly

8. Which of the following industries is unlikely to have an oligopolistic market structure?
a) Mining
b) Airlines
c) Tourism
d) Petroleum

9. Which of the following companies is most likely to have a monopoly in Australia?
a) Telstra
b) Australia Post
c) The Commonwealth Bank
d) McDonald's

10. Which of the following markets is most likely to be concentrated, resulting in the business earning large profits?

a) Fast Food
b) Airport parking
c) Fruit and vegetables
d) Cleaning services

11. HH Holdings is a public company that specialises in mergers and acquisitions. The CEO, Ted Roberts, has just been poached by a rival company and the market is deeply concerned about the quality of his possible replacement. This is likely to have which of the following impacts on the market for shares in HH Holdings?

a) An increase in supply of shares and a lower share price.
b) An increase in demand for shares and a lower share price.
c) A decrease in demand for shares and a higher share price.
d) A decrease in supply of shares and a higher share price.

12. With respect to demand and supply in the labour market for accountants

a) A wage above the equilibrium level will not result in unemployment.
b) Higher wage rates for accountants will not encourage an increase in the supply of these accountants.
c) Higher wages for accountants is a potential solution to a shortage of accountants.
d) A lower skilled migration intake is not a partial solution to the problem of excess demand for accountants.

13. Which of the following best describes monopsony power?

a) When a business is able to restrict supply and raise prices in order to maximise profits
b) When a business is able to increase supply and reduce prices in order to maximise profits
c) When a business is able to use its large buying power to reduce the price it pays to suppliers in order to maximise profits
d) When a business is able to use its large buying power to increase the price it pays to suppliers in order to maximise profits

14. Which of the following provides the best definition of predatory pricing?

a) When a company sets its prices at a sufficiently low level with the purpose of damaging or forcing a competitor to reduce their prices
b) When a company sets its prices at a sufficiently low level with the purpose of damaging or forcing a competitor to exit the market
c) When a company sets its prices very high because of an absence of competition
d) When a company forces its suppliers to lower their prices in order to drive them out of business

15. Which market structure below is likely to be associated with the lowest level of technical efficiency for firms operating in that market?

a) Perfect competition
b) Monopoly
c) Monopolistic competition
d) Oligopoly

16. Coles and Woolworths share approximately 70% of the market for grocery items in Australia. The market for grocery items has which of the following market structures?

a) Perfect competition
b) Monopoly
c) Monopolistic competition
d) Oligopoly

17. A large increase in refugee intake is likely to have which of the following effects on the market for unskilled workers?

a) An increase in supply, lower wages and an increase in employment of unskilled workers
b) An increase in supply, higher wages and an increase in employment of unskilled workers
c) An increase in supply, lower wages and a decrease in employment of unskilled workers
d) A decrease in supply, higher wages and a decrease in employment of unskilled workers

18. Which of the following best describes monopoly power?

a) When a business is able to use its large buying power to increase the price it pays to suppliers in order to maximise profits
b) When a business is able to restrict supply and raise prices in order to maximise profits
c) When a business is able to increase supply and reduce prices in order to maximise profits
d) When a business is able to use its large buying power to reduce the price it pays to suppliers in order to maximise profits

19. An expansion along the supply curve for labour will occur when

a) There is an increase in immigration
b) Businesses reduce wages in most occupations
c) The government reduces unemployment benefits
d) Businesses demand more workers as the economy grows

20. Which of the following markets is the least likely to be one involving the use of price discrimination?

a) Cinemas
b) Taxi services
c) Airlines
d) Amusement parks

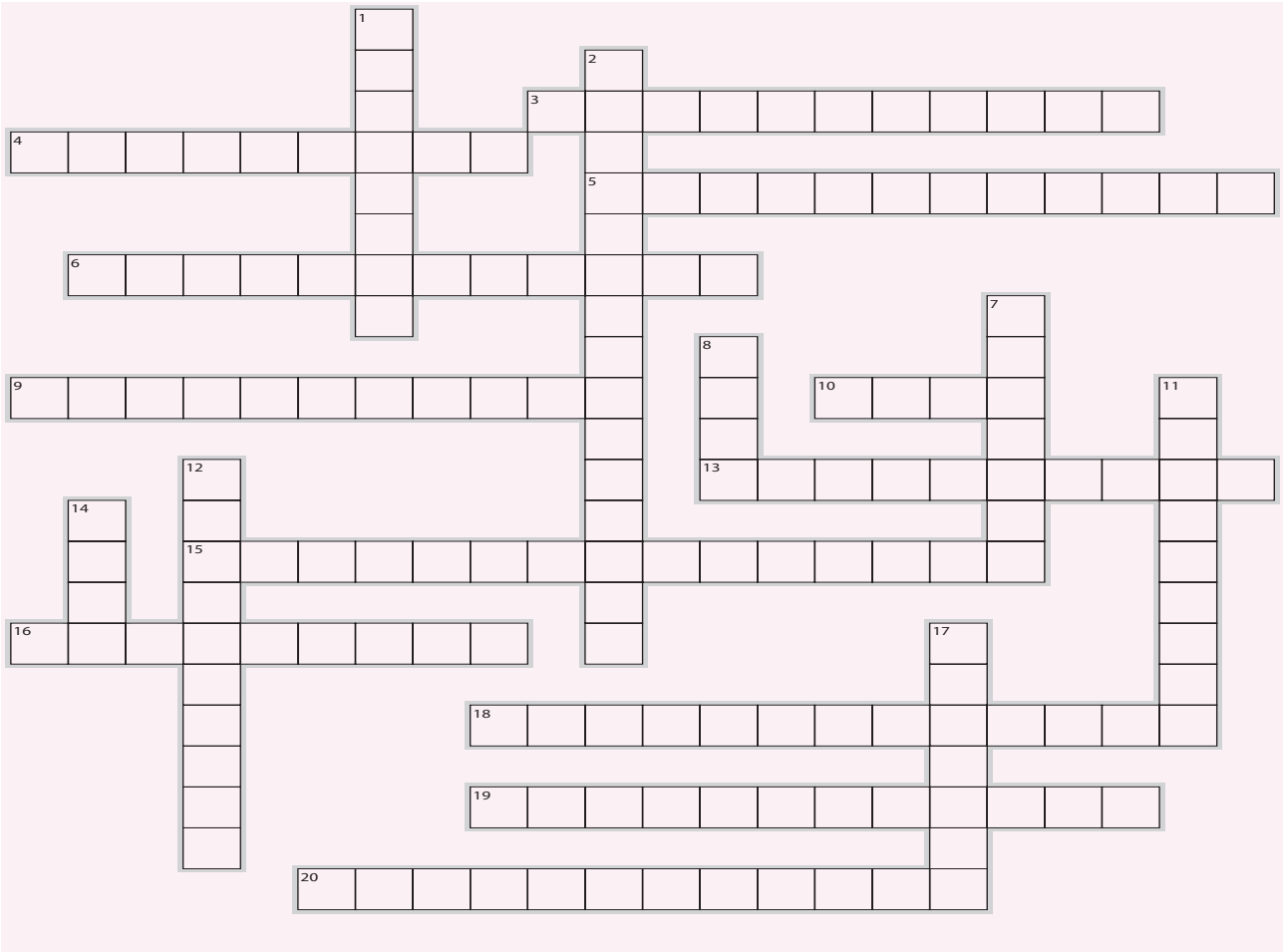
4.8 Chapter crossword puzzle

Across

3. The ability of a business to manipulate markets in terms of price and quantities (2 words)
4. This type of power is enjoyed by large firms who 'squeeze' suppliers as much as possible in order to purchase at the lowest possible cost prices
5. The price of labour incorporating more than simply the wage
6. A minimum wage in the labour market can cause this to occur
9. Two words that mean the same thing as the stock market (2 words)
10. When the stock market is falling heavily it is referred to as this type of market
13. Competitive markets are likely to result in this being relatively high, given that businesses continually strive to reduce costs
15. The way a market is organised in terms of factors like the number of competitors, the nature of the product, etc. (2 words)
16. A few firms controlling the market
18. A fall in these will tend to push the demand for shares to the right (2 words)
19. Concentrated market structures, such as oligopolies, can create this negative effect in an economy
20. The major factor causing volatility in the share market

Down

1. One business controlling the market
2. When these are high, it is likely to result in the development of an oligopoly or monopoly (3 words)
7. A specific market in Australia dominated by two firms
8. The variable commonly used on the vertical axis of the demand and supply diagram in the labour market
11. A price below equilibrium in the labour market will tend to increase these
12. When products are identical
14. When the stock market is rising strongly it is referred to as this type of market
17. These markets have increased in popularity owing to the abuse of monopoly and monopsony power



4.9 Chapter summary

1. A labour market is a market for labour services, where buyers and sellers of labour services come together in exchange and where the rate of exchange is the price of labour.
2. Employees are primarily concerned about the price of labour in terms of remuneration, which is defined as the total financial reward for working and includes the wage or salary plus any additional 'cash equivalent' benefits such as the use of a company car.
3. As the cost of labour (i.e. the wage) rises, firms have more incentive to reduce the demand for labour, substituting out of labour and into capital. This relationship between the wage and the demand for labour is depicted by the demand curve, where the wage is the price of labour shown on the vertical axis.
4. Any increase in the wage will attract more people to offer their labour services to that particular market. This then explains why the supply curve in the labour market is upward sloping from left to right.
5. Labour markets will be in equilibrium when the price of labour (or the wage) is at such a level that the total demand for labour is exactly equal to the total quantity supplied.
6. Minimum wages legislation keeps the wage artificially high in some industries causing some degree of unemployment.
7. In the market for teachers in Victoria, the Victorian government has what is referred to as a 'monoposony power'. This means that it is the single biggest buyer of teaching services, and consequently it has a huge influence on the price of labour, and is therefore able to keep the wage of teachers below the equilibrium level, creating an excess demand (or shortage) of teachers.
8. Employers are concerned about the total cost of labour, which not only includes the amount directly paid to the workers in the form of remuneration, but also the other labour related costs in the form of State Government payroll taxes and Workcover insurance. Changes in both the cost and productivity of labour will shift the demand curve for labour either to the left (a decrease) or to the right (an increase).
9. Labour productivity is defined as total output per labour hour worked, or simply as the total volume produced divided by the number of hours worked in the organisation.
10. When more goods are produced in response to higher consumer demand, it will necessarily lead to an increase demand for factors of production. This leads to a higher 'derived demand for labour'.
11. There are a number of factors, apart from the wage or remuneration, that will influence individuals' willingness to offer their labour services to the market. These factors will either shift the supply of labour to the right (an increase) or to the left (a decrease), such as changes to the non-financial costs or benefits attached to employment (such travel time and self esteem).
12. When a particular labour market is strong, it means that there are lots of job vacancies (where employers are looking for workers to fill positions at their organisation) and the demand for labour will be high, leading to a general shortage of workers in that particular market.
13. When a particular labour market is weak, it means that there are very few job vacancies and there is a general surplus of workers in that particular market.
14. Overall, the highest wage or remuneration levels are received by those individuals who supply their labour services to markets where the supply of labour is low relative to the demand.
15. A stock is also referred to as a share and it represents a part ownership in a public company.
16. Like any market, a stock market is a place where buyers and sellers of a good or service come together in exchange and where the rate of exchange is the price. In this case, the buyers are investors wishing to purchase stock and become shareholders. The sellers are those wishing to sell the stock in order to raise funds.
17. The demand for shares comes from investors who are purchasing a financial asset that they believe (or hope) will increase their wealth over time.
18. The returns from owning shares come in two main forms: the dividends paid by a company to its shareholders and the capital gain made while owning the shares.
19. The supply of shares will initially come from companies listing on the stock exchange for the first time and the supply of shares in the secondary market comes mainly from existing shareholders of companies.
20. Prices in stock markets will converge towards an equilibrium price and quantity traded.
21. Factors that will cause the demand for shares to increase, reflected in a shift to the right of the demand, include improved expectations and confidence levels, takeover or merger activity and lower interest rates.
22. 'Bull markets' occur when the demand for shares in general is very strong such that prices rise to very high levels.
23. Any factor that changes the willingness of shareholders to sell (or supply) their shares, other than a change in price, will be a factor that causes a shift of the supply curve.
24. A 'bear market' is the opposite of a bull market, where pessimism results in an increase in supply and reduction in demand, which combine to cause prices to spiral downwards.
25. The forces of demand and supply within all markets determine both prices and the allocation of resources. How prices and resources respond will, however, depend heavily upon the structure existing in a particular market.
26. Characteristics that help us to determine the type of market structure that exists includes the number of buyers and sellers in a market, the uniqueness of the product, the freedom of entry into and exit out of the market and the degree to which buyers and sellers possess information about the products for sale.
27. Market power refers to the ability of any particular business (or group of businesses) to control or manipulate prices or quantities in a market.
28. Businesses operating in perfectly competitive markets experience the lowest degree of market power and the

business operating in a monopoly experiencing the greatest degree of market power.

29. A perfectly competitive market requires a number of conditions to be met, such as a large number of buyers and sellers, perfectly homogenous products, perfect information and no barriers to entry or exit
30. In a perfectly competitive market no single business possessed any market power. Each business would be a 'price taker' in the sense that they would be unable to charge a price higher than their competitors without going out of business in the longer term.
31. Monopolistic competition is a market structure that is very similar to perfect competition in that there are many buyers and sellers, there is freedom of entry and exit and there is perfect information. The difference is the lack of product homogeneity, which means that products in these markets are not identical.
32. An oligopoly occurs when a relatively small number of businesses dominate the market and collectively exercise market power by restricting supply and/or raising the price.
33. When there is only one supplier in a market it means that a 'monopoly' exists. The business in a monopoly will have the highest degree of market power and will be able to be a 'price maker', with maximum control over price and quantities in the market.
34. Businesses exercise 'monopoly power' by manipulating prices in the market for their particular product. This also applies in oligopolistic market structures, where businesses will typically seek to use their combined market power to extract the most from consumers.
35. Markets characterised by high degrees of competition will result in lower prices of goods and services and therefore lower rates of inflation. In contrast, more concentrated markets, involving a relatively high number of oligopolies or monopolies, will result in higher prices and therefore higher rates of inflation.
36. In a perfectly competitive market, resources will be allocated in the most efficient way in the sense that prices will be at the lowest possible levels for consumers, producers are not making 'excessive' profits, and consumers are not paying 'excessive' prices. Exactly the right amount of resources (such as labour and capital) are being allocated to produce the goods and services wanted by consumers.
37. In a more concentrated market structure (such as oligopolies or monopolies) the living standards are unlikely to be maximised and the nation is not experiencing the 'most efficient allocation of resources'.
38. The existence of an oligopoly or even a monopoly in itself might not always lead to the emergence of net costs for society. A monopoly supplier, for example, will often be advantaged by its large size, permitting lower average costs of production compared to the situation that would exist with several smaller producers supplying the market.
39. Price discrimination involves a business charging consumers different prices for the same product. It enables businesses to maximise revenue by imposing a higher price for 'high value' customers (namely those with the ability and preparedness to pay more) and a lower price to 'low value' customers (namely those unable or unwilling to pay a higher price).
40. Examples of price discrimination in action are quite common, and include discount tickets to events offered to pensioners or students.
41. Multibranding is defined as individual companies marketing their products under separate and distinct brand names. There are some common examples, such as the Coca-Cola company producing numerous soft drink brands (including Coke, Fanta and Sprite), Cadbury producing a number of chocolate brands (including Flake, Dairy Milk and Roses) and Kellogg's producing various brands of cereal (including Cornflakes, Special K and Rice Bubbles).
42. The Australian Competition and Consumer Act (2010) is designed to promote competition and eliminate any behaviour that is deemed to be 'anti-competitive' to the detriment of consumers and society more generally. It is enforced by the Australian Competition and Consumer Commission (ACCC)
43. Predatory pricing occurs when a company sets its prices at a sufficiently low level with the purpose of damaging a competitor, or forcing a competitor to withdraw from the market.
44. A cartel is defined as two or more businesses joining forces to maximise profits. It means that they agree not to compete against each other and instead develop joint strategies to manipulate the market at the expense of consumers.
45. Exclusive dealing occurs when a business engages in contractual dealings with clients (e.g. customers or suppliers) with the express purpose of restricting the ability of the client to engage in business dealings with its competitors.
46. Exclusuve dealing has the effect of reducing the ability of the business's competitors from attracting sales and is against the law if it substantially lessens competition in that particular market.

Chapter 5
Behavioural economics

5.1 Key insights of behavioural economics, including bounded rationality, bounded willpower and bounded self-interest

Behavioural economics is a relatively new field of study that seeks to incorporate the insights of psychology into economics, to enhance the explanatory power of economics. Practitioners of behavioural economics are called **behavioural economists**.

Through extensive research, experimentation and observation, behavioural economists have improved our understanding of consumer behaviour. The following quote from prominent behavioural economists, Richard Thaler and Sendhil Mullainathan neatly sums up the three key insights of behavioural economics:

'Bounded rationality reflects the limited cognitive abilities that constrain human problem-solving. Bounded willpower captures the fact that people sometimes make choices that are not in their long-run interest. Bounded self-interest incorporates the comforting fact that humans are often willing to sacrifice their own interests to help others.'

The next section explores each of these insights in more detail.

Bounded rationality

Herbert Simon, a pioneer of behavioural economics argued that the notion of **Homo economicus**, which rests on the assumption that consumers always make fully informed, rational decisions designed to maximise their utility, is a one-dimensional view of consumer behaviour.

Simon proposed an alternative view of how consumers make decisions, based on **bounded rationality**. This is the idea that consumers' ability to make consistently rational decisions is compromised by the availability of information, the complexity of the decision, the brain's cognitive limitations and time constraints. As a result, consumers often resort to **heuristics** or 'mental shortcuts' to help them make 'fast and frugal' decisions. These decisions are fast in the sense that consumers save time and energy thinking about decisions, and frugal in the sense that they minimise the costs of collecting and processing the information needed to make decisions. Therefore, according to behavioural economists, most consumers are **satisficers** rather than **utility** maximisers. That is, they simply 'muddle along' making decisions that are 'good enough'.

Study tip

Heuristics are 'mental shortcuts' or 'rules of thumb' that consumers employ when making decisions. Common examples of heuristics are following 'the herd' and sticking with the 'status quo'. An over reliance on heuristics can result in decision-making errors and biases. Interestingly, heuristics are yet another example of a trade-off in Economics. Although they can make the decision-making process easier they are more likely to yield sub-optimal decisions.

Study tip

Why do people need short cuts? People experience cognitive overload because of the sheer volume of information they face. This is compounded by the brain's inadequate processing power. Therefore, people's ability to store and process information, let alone make lightning quick calculations of the costs and benefits attached to each possible decision is constrained.

Behavioural economists Daniel Kahneman and Amos Tversky developed a dual-system theoretical framework to explain why decision-making is not always rational. System 1 Thinking ('Thinking Fast') consists of thinking that is intuitive, automatic, experience-based, and relatively unconscious. In other words, this type of thinking is based on gut feelings and general impressions. The use of heuristics or mental shortcuts, which can result in decision-making biases and errors can be classified as System 1 Thinking. On the other hand, System 2 Thinking ('Thinking Slow') is more reflective, controlled, deliberative, and analytical. System 2 is associated with conscious thought. However, a downside of this type

of thinking is it can be quite costly and time-consuming. It is more likely to be employed when big, high-stakes decisions need to be made.

Although using heuristics can serve consumers well, it can also lead consumers astray, resulting in decision-making errors and biases that affect the ability of consumers to make consistently rational decisions.

Later on in this chapter, common decision-making errors and biases will be explored in some detail.

Application Exercise 5a: Count the balls

Watch the following short YouTube clip: https://www.youtube.com/watch?v=vJG698U2Mvo and count how many times the players wearing white pass the basketball. [Do not read beyond this point until the video has been viewed.]

Your answer is _____ ?

Was there anything that you missed when counting the passes?

The experiment highlights the 'inattentional blindness' that can occur when human attention is engaged in a specific task, event, or object (in this case the people in white passing basketballs among themselves). Inattentional blindness is an example of people's cognitive limitations. If people miss pertinent details or important information, it is questionable whether they are truly capable of making utility maximising decisions.

Questions/tasks

1. **In a small group of 3 or 4, devise a similar activity that can reveal the 'inattentional blindness' that can occur when people focus intently on a specific task or activity.**
2. **What might the activity reveal about consumer decision making?**

Bounded willpower

The notable 18th century Scottish philosopher David Hume asserted that 'reason is a slave to the passions'. Centuries later, behavioural economists drew upon on this insight when developing the idea of bounded willpower. Put simply, this is the view that consumers do not possess absolute self-control when confronted with choices. They can succumb to their appetites and urges, and can be emotional and impulsive, leading them to make sub-optimal decisions, which they later regret. Behavioural economists attribute these self-control problems to **present bias** or people's short sightedness. This is where people tend to overvalue the present and undervalue the future.

Study tip

The economist, John Maynard Keynes, who revolutionised economics in the middle of the 20th century, used the term 'animal spirits' to describe the important influence of emotions on decision making.

Common examples of present bias include overeating, spending too much on credit, not saving enough for retirement, problem gambling and illicit drug taking. The concept of present bias will be explored in greater depth later in this chapter.

Application Exercise 5b: Decisions, decisions...

Aisha and Jose are thinking about installing solar panels in their home. The cost of the panels, including installation, is $7000 and Aisha estimates that it will save $1500 per year on their electricity bills. She argues that, in roughly five years' time, they can expect to break even; that is, recoup the costs of installing solar panels. This will therefore enable the couple to enjoy big savings on their electricity bills in subsequent years.

Aisha wants to install the solar panels because she observes that the use of solar energy will save them a considerable sum of money in the long term. However, Jose is against the idea because of the large initial cost. In addition, he is loathe to change their current arrangement as it has worked well for them in the past. In the end, they decide not to install the panels.

Questions

1. **Describe Jose's preferred decision.**
2. **Describe Aisha's preferred decision.**
3. **Explain how this case study might demonstrate the decision-making bias known as present bias.**

Bounded self-interest

Bounded self-interest is the idea that consumers are social beings and as such care about fairness, and are not always driven by narrow self-interest to maximise their personal benefit. Fairness at its core is about reciprocity or the tendency to want to return another person's action with an equivalent action. The insight of bounded self-interest is best illustrated with an experiment known as the ultimatum game, where two strangers are told that they stand to win $100 from playing a simple game. Both players are assigned specific roles: Player A's role is to propose how the $100 should be divided, while Player B's role is to decide whether to accept or reject Player A's proposal. If Player B accepts whatever Player A proposes, the $100 is divided between the two players according to Player A's proposal. However, if Player B rejects the proposal, both receive nothing.[See Application Exercise 5c: Ultimatum Game experiment.]

Given that people are assumed to be rational, calculating maximisers of their personal benefit, Player A should propose a $99/$1 split. After all, it is in Player B's self-interest to accept the proposal because they have gained something from it, as they are better off by $1. However, when this experiment is conducted, Player B usually rejects a proposal that offers them $1 or any other small amount. In practice, the person in the role of Player A usually proposes a fairer division of the $100, such as a $70/$30 or $60/$40 split, which Player B usually accepts.

The ultimatum game lends support to the idea that people are driven by a sense of fairness, and will reject proposals or deals that treat them unfairly, even if it is contrary to their self-interest; that is, to accept the deal would make them better off. For example, in the context of employer/employee relationships, if a business has a very profitable year, then workers might expect to receive a fair share of the profits, perhaps in the form of a pay rise or a bonus. Failure by the business to appropriately reward its employees could prompt the workers to punish their employer through reduced effort, industrial disputation or even sabotage.

Study tip

The 99/1 split is known as the Nash equilibrium after John Nash, a Nobel Laureate in Economics. Australian actor Russell Crowe played John Nash in the Academy Award winning film, 'A Beautiful Mind'.

In the context of consumer decision making more generally, and the notion of fairness, altruistic consumers are often prepared to pay more for products that have been ethically sourced, as this appeals to their sense of fairness, despite the fact that they would be materially 'better off' by sourcing a cheaper product.

Application Exercise 5c: Ultimatum Game experiment

As a class, you will be conducting an experiment to test the proposition that consumers care about fairness. The class will need to be divided into 6 groups of students. Each group will run experiments on 10 non-Economics students to test whether they accept or reject the following proposed divisions of a hypothetical $100.

- Group I: proposes a $99/$1 split
- Group II: proposes a $95/$5 split
- Group III: proposes a $90/$10 split
- Group IV: proposes a $80/$20 split
- Group V: proposes a $70/$30 split
- Group VI: proposes a $60/$40 split

1. **Ask the participants why they accepted or rejected the proposed split and record their responses.**
2. **Collate the data collected by the class and represent it using an appropriate graph.**
3. **What conclusions can you draw from your results?**

Review Questions 5.1a

1. Outline the aim of behavioural economics.
2. Outline the three key insights of behavioural economics.
3. Explain why consumers are likely to exhibit bounded rationality.
4. Contrast 'satisficing' behaviour with 'utility maximising' behaviour.
5. Explain what is meant by bounded willpower and provide some examples of common self-control problems.
6. Explain what is meant by bounded self-interest and outline how this might affect consumer decisions.

Common decision-making errors and biases

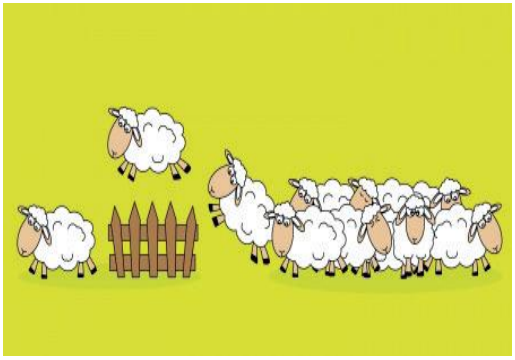
As noted earlier, the use of heuristics (also known known as mental shortcuts or rules of thumb) can result in decision-making errors and biases. The next section deals with a selection of heuristics.

Availability

The **availability heuristic** describes a tendency for consumers to rely on, and use information, that is most convenient and accessible when making decisions. Although a handy 'mental shortcut', it might not be the best available information and has the potential to result in sub-optimal decisions. For example, expectant parents are more likely to use the results from the first page of a Google search when buying a baby stroller, as this information is more available than the information on the hundredth page. Similarly, share market investors might judge the quality of an investment based on information that was recently in the news, ignoring other relevant information. The availability heuristic can also result in consumers making choices based on what is literally closest at hand. A study by Yale School of Management and Google found that people visiting Google's break rooms were 50 per cent more likely to grab a snack with their drink if the distance from snack to beverage station was reduced from 5 metres to 2 metres.

Herd behaviour

The idea of herd behaviour has a long history in philosophy and crowd psychology. **Herd behaviour** is where consumers follow what other people are doing instead of using their own information or making independent decisions. There are many reasons for this. For example, when confronted with decisions where the outcomes are highly uncertain, consumers can follow the crowd (the 'herd'), hoping that the crowd knows more than them. Here consumers are placing their faith in the 'wisdom of the crowds'. Consumers can also resort to following the crowd because they lack access to the necessary information. Following the crowd can be an effective 'mental shortcut', but can also lead to errors in the decision-making process. In asset markets, such as the share market and property market, herd behaviour is a factor that accounts for the **boom-bust cycle**.



Application Exercise 5d: National Geographic Brain Games

Watch the following YouTube clip: https://www.youtube.com/watch?v=0IJCXXTMrv8. You can also search for 'Question the herd Brain Games' to find the video on YouTube.

Questions/tasks

1. **Explain the experiment.**
2. **Outline what the experiment demonstrated.**
3. **Provide some reasons why people tend to follow the herd.**

Overconfidence bias

Consumers often overestimate their ability to make good decisions. To illustrate this bias, consider the following experiment. A room of people is asked a numerical question such as the distance in kilometres between the Earth and the moon. Rather than having to give a single estimate, they are asked to give a 90 per cent confidence interval. This means they have to be 90 per cent confident that the answer falls within the upper and lower limits of the range they have given. However, rather than giving a big range, such as 1 to 1,000,000 kilometres, most people give ranges that are too small, meaning the answer falls outside the range they have given. This occurs because most people have too much confidence in their intuitive reasoning, judgments and cognitive abilities to make good decisions. (By the way the distance between the Earth and moon is 384,000 km!)

With respect to consumer behaviour, the **overconfidence bias** can result in people taking on too much debt, a decision that they often come to regret. Share market investors can also be prone to the overconfidence bias in the sense that they have unwarranted faith in their ability to predict the next 'crash' to avoid any losses from their investments.

Herd behaviour combined with the common belief that 'you can't go wrong by investing in property because property values always go up' were factors that contributed to the overconfidence or exuberance of property buyers in the United States in the period leading up to the Global Financial Crisis of 2008. Being too confident led many first-time

property buyers to take on too much debt. When the **house-price bubble** burst, many were left holding properties worth considerably less than the value of the loans they had initially taken out to purchase them. As a result, many people faced financial ruin. On a lesser scale, the decline in Australia's housing prices during 2022 may have resulted in losses for first home owners and/or investors who were incentivised to pay high prices up to the end of 2021 by a combination of overconfidence and very low borrowing costs.

Overconfidence also explains why many people choose to start their own small business even though the failure rate of such enterprises is notoriously high, as evidenced by 33% of small businesses failing in their first year, and 75% failing in their fifth year of operation.

Study tip

Behavioural economists and Nobel laureates, Daniel Kahneman and Amos Tversky argue that the vast majority of decisions are made unconsciously, instantaneously and instinctively with consumers relying heavily on heuristics - 'mental shortcuts' or 'rules of thumb'. They also argue that a lot of these 'mental shortcuts' or 'rules of thumb' are irrational and lead to consumers making sub-optimal decisions. However, others such as Gerd Gigerenzer argue that using heuristics to make decisions has merit. For example, say a consumer is presented with a really attractive proposal such as a credit card with a super low interest rate. Their intuition might tell them that it seems dubious, which prompts them to reject the proposal. Here the consumer has employed the 'rule of thumb' that 'if it sounds too good to be true it probably is'. If the consumer investigated the proposal further by reading the fine print of the credit card contract, their initial hunch might be confirmed. Using this particular 'rule of thumb' has enabled them to make a 'fast and frugal' decision, which is ultimately in their best interests.

Vividness

Another common decision-making error or bias that affects the ability of consumers to make rational decisions is what behavioural economists call **'vividness'**. This is where consumers place too much weight on a small number of vivid observations when making decisions. To illustrate this bias, consider the example of a consumer who is thinking about buying a new smart phone. They have a particular brand in mind but want to know whether it is any good before making a decision. To glean this information the consumer reads a Consumer Report based on a survey of 1000 people who own that brand of smartphone. Later, they run into a friend who happens to have that brand, who tells them that it is no good. A rational decision maker would realise that their friend's account has only increased the sample size by one, from 1000 to 1001, which does not provide much new information. However, because such accounts 'stand out' or are 'vivid', consumers can be tempted to place too much importance on them and downplay a host of other relevant information.

Status quo bias

Consumers can be averse to change, and this can affect their ability to make rational decisions. The **status quo bias** is the tendency for consumers to stick with a particular choice even though the decision to do so is no longer in their self-interest. This partly explains why consumers are often reluctant to change their private health insurance providers even though there are numerous 'comparison websites', such as iSelect, that facilitate the easy comparison of the prices, services and deals offered by such businesses.

In Victoria, the **deregulation** of the utilities industry (e.g., gas and electricity suppliers) aimed to provide consumers with choice and lower prices. However, the policy has not been as successful as expected with many consumers reluctant to change suppliers. Barriers to change include the **transaction costs** or 'hassle' of changing suppliers such as identifying a new and reputable supplier, making phone calls and filling out the necessary forms. Consumers might also fear change, and have concerns that the new supplier might not be as reliable. Another barrier to change is **procrastination bias**, where consumers keep putting off making a decision. These barriers help to explain the status quo bias.

Anchoring effect

Anchoring, also known as **reference dependence**, is where consumers' judgments are affected by some arbitrary starting value or 'anchor'. This bias is best illustrated by an old experiment where people are asked to estimate how many African countries are in the United Nations. Most people have no idea but if 60 is mentioned most people will seize on this number and their estimates will be in the vicinity of 60. However, when the experiment is repeated and 100 is mentioned, most people gravitate to this number and thus their estimates are considerably higher.

A practical illustration of how 'anchors' can create a bias in favour of a particular decision is in the area of new car sales. For most consumers, purchasing a new car involves parting with a relatively large sum of money. The price of a new car acts as the 'anchor' or reference point, which makes all the extras such as paint protection and extended warranties that salespeople try to convince people to buy seem relatively cheap by comparison. This explains why some consumers walk out of car showrooms purchasing all the extras rather than just a car.

Supermarkets and department stores commonly use anchoring with 10% off signs prominently displayed at the entrance to a store. Signs announcing bigger discounts of 25% are placed at strategic locations further in the store. Consumers judge all subsequent signs by the first sign, as it is the 'anchor'. This 'psychological trick' can make the 25% discount

seem far more attractive, inducing consumers to spend. Similarly, not for profit organisations, such as charities, can use anchoring to elicit more generous donations. Recall that anchors serve as a starting point for a person's thought process, and as such this cognitive bias can be exploited. For example, when seeking donations charities might offer a range of options such as $50, $75, $100 and $150. Alternatively, they might offer the following options: $100, $250, $1,000 or $5,000. Astute fundraisers will know that the latter range of options, which are set at higher starting points, are likely to yield more in donations.

Application Exercise 5e: Overconfidence bias

Conduct the following experiments on your peers who aren't studying Economics and record your findings in the table provided. For each experiment choose a sample size of 10 students. Try to use different students for each experiment.

Experiment 1: Ask your experiment subjects the following question: What is the weight of an empty Boeing 747 in kilograms? Provide a lower and upper limit such that you are 90% sure the correct answer is between the two.

(The answer to the question for the first experiment is 412,769 kg.)

Experiment 2: Ask your experiment subjects the following question: What is the average weight of an adult male sperm whale, the largest of the toothed whales in tonnes? Provide an upper and lower limit such that you are 90% sure that the answer lies somewhere between the two.

(The answer to the second experiment is 40 tonnes. Note: 1 tonne equals 1000kg).

Once you have collected your data, you will need to analyse it. You can use the following prompts: For how many students does the answer fall within the range they have provided? Conversely, for how many students is this not the case? Summarise your findings and explain whether the experiment confirms the idea of the overconfidence bias.

Experiment 1: The weight of an empty Boeing 747				Experiment 2: The average weight of a male sperm whale			
	Response in kilograms	Answer in range (✓)	Answer out of range (✓)		Response in tonnes	Answer in range (✓)	Answer out of range (✓)
Student 1				Student 1			
Student 2				Student 2			
Student 3				Student 3			
Student 4				Student 4			
Student 5				Student 5			
Student 6				Student 6			
Student 7				Student 7			
Student 8				Student 8			
Student 9				Student 9			
Student 10				Student 10			
Total				Total			

Framing bias

Framing is about how options or propositions are presented. Consider the following example relating to an expensive permanent hair removal treatment. The advertiser can frame the likely outcome of this treatment in two ways.

Frame 1: The success rate for such a treatment is 80%.
Frame 2: The treatment has a failure rate of 20%.

Both propositions are statistically equal, but they are framed differently. However, consumers are less likely to pay for a treatment with a 20 per cent failure rate compared to a treatment with an 80 per cent success rate. In other words, people can react differently to the same propositions, depending on how they are framed. This type of framing is known as **statistical framing** as it relies on statistics and numbers.

Framing is also used in advertising to induce consumers to make decisions on an emotional rather than rational basis. It often preys on people's vulnerabilities and emotions by making unspoken links between the product and some attractive situation or emotion. For instance, an advertisement for a brand of margarine might depict a happy, healthy and active family. The message being communicated here is that, by buying the product, you can have a happy, healthy and active family too. This type of framing is known as **emotional framing** as it appeals to particular human emotions or feelings.

Framing can be used in numerous situations to influence people's choices. For example, if the government or the medical community wanted more people to 'donate' a kidney, the number of people willing to do so is likely to be affected by the way it is framed. For instance, it could be framed as: Is it morally acceptable to pay people to 'donate' a kidney? Alternatively, it could be re-framed as: Do you know that lives could be saved by paying people to 'donate' a kidney? The latter frame is likely to result in more people being prepared to sell a kidney, or at least approving of the idea of others selling a kidney, as it does not seem morally reprehensible.

The traditional economic viewpoint of consumer behaviour implies that, because people are rational, framing should not affect the choices they make. That is, they can see 'beyond' the frame. However, behavioural economists argue that the way consumers react to situations or propositions are heavily dependent on the way they are framed or the context in which they are presented. The upshot is that framing can lead to sub-optimal decisions that compromise a consumer's utility.

Application Exercise 5f: Treatments experiment

Consider the following hypothetical treatment options available to a person in need of medical intervention. Each of the two options have been framed differently in scenarios 1 and 2.

Scenario 1
Treatment A: Surgery:

Of 100 people having surgery, 90 live through the post-operative period, 68 are alive at the end of the first year, and 34 are alive at the end of five years.

Treatment B: Radiation:

Of 100 people having radio therapy, all live through the treatment, 77 are alive at the end of one year, and 22 are alive at the end of five years.

Scenario 2
Treatment A: Surgery:

Of 100 people having surgery, 10 die during surgery or the post-operative period, 32 die by the end of the first year, and 66 die by the end of five years.

Treatment B: Radiation:

Of 100 people having radio therapy, none die during treatment, 23 die by the end of one year, and 78 die by the end of five years.

Questions/tasks

1. **Evaluate the efficacy of each of the treatment options presented in scenarios 1 and 2.**
2. **In your own view, how has the 'framing' of the options influenced the perceived efficacy of the treatments.**
3. **Conduct a random survey of 10 people, asking which of the treatment options they would choose from those presented in Scenario 1. Then conduct a separate random survey of 10 people, asking which of the treatment options they would choose from those presented in Scenario 2.**
4. **Summarise the results of both surveys and explain how the framing of the options influenced survey respondents.**

Loss aversion

In their ground breaking work *Prospect Theory*, the behavioural economists Daniel Kahneman and Amos Tversky opined that 'losses loom larger than gains'. **Loss aversion** is a cognitive bias whereby consumers feel losses more acutely than equivalent gains. For example, the psychological pain of losing $100 is often *far greater* than the utility from gaining $100.

Loss aversion can be measured with gambles such as a coin toss, where there is a 50/50 chance of either heads or tails being the outcome of any given toss. Assume that a gambler stands to lose $100 if the coin lands on tails and wins $100 if the coin lands on heads. Most participants in experiments were unprepared to take on this gamble and, instead, required the possible gain to be much higher before they were prepared to take on the gamble - for most participants, the required gain was around $200. In other words, the prospect of winning $200 just offsets the prospect of losing $100. This suggests that the psychological pain of losing is roughly twice as powerful as the pleasure of winning. It is for

this reason, most consumers are willing to sacrifice some gains in income or wealth in order to avoid possible losses. The traditional economic viewpoint (i.e. rational consumers) argues that losses and gains should be given the same weights, and that consumers always seek to maximise their income or wealth. However, behavioural economists posit that an inherent dislike of losses trumps the goal of income or wealth maximisation.

Loss aversion can explain why share market investors hang onto shares that are worth less than they originally paid for them. What might lie behind loss aversion in this case? It could be a mistaken belief that these shares will eventually grow in value or perhaps not wanting to own up to the fact that investing in these shares was a bad decision. Further, selling off non-performing shares means that the loss materialises or becomes a reality. The point is that an inherent dislike of losses results in inertia where share market investors stick with 'dud' shares. A rational course of action would be to sell them and put the proceeds into another share with better prospects of growth or gain.

Study tip

The tennis great Jimmy Connors famously said "I hate to lose more than I like to win". This quote neatly sums up the cognitive bias of loss aversion. This idea is also encapsulated by the proverb "a bird in the hand is worth two in the bush".

Insurance is a product that exploits people's aversion of losses. Such products highlight a litany of potential costs (losses) of not being insured even though the likelihood of such outcomes eventuating is slim, while simultaneously downplaying the small and constant payments that are needed to maintain insurance coverage. This can explain why consumers often pay for extended warranties (a type of insurance) when purchasing expensive consumer goods, such as smart phones, even though they are unlikely to ever have to use it.

In a study involving the impact of a change in the price of eggs on the quantity of eggs demanded, a team of behavioural economists made the following findings. A 10% increase in the price of eggs led to a 7.8% decrease in the quantity of eggs demanded. In contrast, a 10% decrease in the price of eggs led to only a 3.3% increase in the quantity of eggs demanded. By examining the concept of loss aversion through the prism of price changes, this study highlighted that consumers are influenced by potential losses more than potential savings or gains.

Application Exercise 5g: Decision-making errors & biases

Below are some examples of decision-making errors & biases that limit consumers' ability to make consistently rational decisions, but the explanations and the names of the errors/biases have been mixed up. Match the correct explanation to the decision-making error/bias.

Error/ bias	Explanation
Anchoring effect	Consumers often overestimate their ability to make good decisions and do not acknowledge the limits of their knowledge and understanding. For example, people mistakenly assume that their chances of winning Tattslotto are greater if they choose the numbers themselves than if a computer randomly generates the numbers in a QuickPick.
Over-confidence bias	Consumers place too much weight on a small number of observations that 'stand out'. For example, we may undertake significant research into the performance of different washing machines (using sources such as Choice or other consumer information websites) before we decide on a particular model to purchase, but we put more weight on the negative feedback about that model from our friend than on the significant independently-researched evidence on the model's performance.
Herd behaviour	Consumers tend to stick to a particular choice even though that choice is no longer in their self-interest. For example, all new mobile phones come with default settings, and research shows that many people stick with the default settings, even if those settings do not actually suit the customer.
Vividness	Consumers' judgements are affected by some arbitrary starting value or point of reference. For example, when choosing to buy something very expensive (such as a car or house), consumers are much less fussy about spending money on the optional extras (e.g. marble kitchen benches) than if they were being asked to spend that money on the extras without the expensive 'major purchase' making the 'additional' purchase look relatively cheap.
Framing bias	When confronted by decisions where the outcomes are highly unpredictable, people often follow the crowd, or the 'general consensus' because it feels safer. For example, when choosing somewhere to eat in an area with which the customer is unfamiliar, they may choose the restaurant that looks the most popular or crowded.
Status quo bias	How options or choices are presented can influence consumer decision-making. For example, if a treatment is stated as having a 90 per cent success rate it is likely to be more palatable than if the same outcome is framed as having a 10 per cent failure rate. In fact, they are the same outcome, but just presented differently.
Loss aversion	Where consumers tend to rely on, and use information that is most convenient and accessible when making decisions. The upshot is that consumers are guided by what is closest at hand when making choices. For example, people severely misjudge their probability of winning the lottery because it is easier bring to mind images of lottery winners than lottery losers.
Availability	Describes the tendency to prefer avoiding losses to acquiring equivalent gains. For example, share market investors choosing to hold on to shares that have gone down in value. The action of selling such shares means that the loss becomes a reality. Instead they may choose to sell a better performing share. A rational investor is likely to sell off shares that are least likely to perform in the future, and hold on to those shares which are most likely to perform best in the future, in order to maximise their overall gain.

Application Exercise 5h: Prospects experiments

Consider the experiments A and B below.

Experiment A

A group of people were presented with the following two prospects:

Prospect 1: The probability of winning $1,000 is 90 per cent, and the probability of not winning is 10 percent.

Prospect 2: A sure win of $800.

The theory of expected value is a concept associated with the traditional viewpoint of consumer behaviour. The expected value of an option is the probability-weighted average based on attaching probabilities to outcomes and then multiplying the outcomes by the probabilities. Therefore, the expected value of Prospect 1 is ($1,000 x 0.90) + ($0 x 0.10) = $900 + $0 = $900. Whereas, the expected value of Prospect 2 is ($820 x 1.00) = $820. In other words, Prospect 2's expected value is $80 less than Prospect 1, which has an expected value of $900.

Homo economicus, or a rational person, would opt for Prospect 1. That is, they would be reluctant to sacrifice some expected income or gains. However, in this experiment most participants pick Prospect 2, even though the expected value of Prospect 1 is greater.

Experiment B

Now consider the following two prospects

Prospect 1: The probability of winning $1,500 is 33 per cent, while the probability of winning $1400 is 66 per cent, and the probability of winning $0 is 1 per cent.

Prospect 2: A sure win of $920.

Questions/tasks

1. **Calculate the 'expected value' of Prospect 1 in Experiment B.**
2. **Calculate the 'expected value' of Prospect 2 in Experiment B.**
3. **Determine which prospect would be selected by a rational person/utility maximiser.**
4. **Determine which prospect would be selected by a person who suffers from 'loss aversion'.**
5. **Conduct an experiment by surveying 10 random people and providing them with the two prospects from either Experiment A or Experiment B. Determine whether the results from your experiment support the theory of loss aversion.**

Present bias

Behavioural economists argue that people have self-control problems, which can affect their decision-making. They contend that people can have problems stopping themselves from doing things they know they'll regret. Basically, people suffer from a lack of willpower. For example, people often succumb to the urge for immediate gratification, without giving too much thought to the problems this might cause in the future. Typically, when people end up regretting their choices, they have overvalued the present and undervalued the future. This is known as **present bias** or **time-inconsistent preferences**.

In a classic experiment to test the hypothesis that people are prone to present bias, participants were offered $100 today or $110 tomorrow. Most participants chose the $100 today option. However, when they were offered $100 a year from now, or $110 a year and one day from now, most participants were happy to wait the additional day to gain an extra 10%. There are many examples of this type of decision making error or bias such as overeating, spending too much on credit, not saving enough for retirement, problem gambling and illicit drug taking.

The overconfidence bias, which was discussed earlier, is one factor that accounts for present bias. People are often over-confident about their ability to control themselves in the future. For example, in the pursuit of the 'Great Australian Dream' of home ownership, some people over-extend themselves by taking on large mortgages, naively thinking that they will be able to cope with the heavy repayments over the term or life of the loan.

Another factor that accounts for present bias is procrastination, where people put off making important decisions. This partly explains why people often delay moving a portion of their savings from a basic savings account to a fixed term deposit that attracts a higher rate of interest. Yet another example is where people put off changing health insurance providers and thus forgo the possibility of getting better coverage (in the event of an illness requiring medical treatment) at a more competitive price. Procrastination is also evident when people resist doing the necessary research to find out whether they are getting the best deal on their mobile phone contract (plan).

Application Exercise 5i: Present bias and schooling

Why don't students work harder?

In 2016, a paper was published reporting on experiments using behavioural economics to improve educational performance. The researchers (a group of economists including Steven Levitt of Freakonomics fame) noted that one of the biggest puzzles in education is why 'investment among many students is so low given the high returns'. By investment they meant 'student effort and engagement'. One suggested reason is that the 'return' on student investment was so long-term that students were succumbing to present bias. Consequently, they undervalued the future benefit of their education so much that they were unwilling to make the effort required in the present to achieve that future benefit. Economists refer to this as 'discounting' the future benefit and 'overweighting' the present, and students tended to do it so much that they were inclined to almost ignore those future benefits.

Part of the problem, according to the authors, is that in order to experience the long-run benefits of education, students 'must make sustained investment in human capital that requires exerting effort on tasks that often have relatively low returns in the near term, such as paying attention in class, completing a daily assignment or focusing on a practice test'. In simple terms, students were not thinking about the fact that in the longer term they would be able to earn much higher incomes if they did well at school now. The authors state that there is a role for public policy in stimulating student investment in schooling.

The authors conducted a series of experiments to try and determine how to best use incentives to increase student effort. They undertook the experiment with over 7000 students in low-performing school districts in the Chicago area. They measured the effort made by students on standardised testing (a little like the NAPLAN). For some of the students, the authors intervened by providing incentives. This included a variety of financial and non-financial 'carrots' which involved benefits if students improved their scores (e.g. compared with their performance on previous similar tests), as well as 'sticks' which involved students losing certain benefits for lack of effort. The goal was to measure the impact of these incentives in improving student effort (that is, student investment in their own education.)

The authors found that incentives offered immediately before and delivered immediately after the task were more effective at encouraging increased effort. They also found that with older students financial incentives (e.g. $20) worked better than non-financial incentives (such as trophies or medals), and these financial incentives also worked slightly better with boys than with girls. Overall, the incentives also worked better on maths tests than on reading tests. The authors noted that typically, in schooling, rewards are offered at the end of the term or year, or at the earliest on a monthly basis.

The question they are now asking is: What implications do these findings have for future education policies?

***Reference**: Steven D. Levitt, John A. List, Susanne Neckermann and Sally Sadoff, 'The behavioralist goes to school: leveraging behavioral economics to improve educational performance', American Economic Journal: Economic Policy, American Economic Association, vol. 8, no. 4, November 2016.*

Questions

1. **Explain the meaning of 'investment' and 'return on investment' in the context of schooling.**
2. **In your own words, explain what the researchers were trying to find out by conducting this experiment.**
3. **Referring to the model of 'homo economicus', explain why students should expend maximum effort on their studies.**
4. **Explain the concept of 'future discounting' (present bias) and how this might help to explain why students do not always apply maximum effort to their high school studies.**
5. **Outline what the researchers discovered about the link between incentives and student effort on tests.**
6. **The researchers stated in their article that some people had expressed a concern that offering external incentives (financial and non-financial) could 'crowd out' (work to take the place of) students' own intrinsic (internal) motivation. Discuss the extent to which you agree with this concern.**
7. **Reflect on your opinion on offering financial incentives to students to try and encourage more effort. Do you believe this is a useful approach to trying to encourage students to be more engaged at school? Explain why/why not.**

Review Questions 5.1b

1. Explain the availability heuristic and provide an example of how this can lead to sub-optimal decision-making.
2. Explain herd behaviour and provide a reason to account for herd behaviour.
3. Explain the overconfidence bias and provide an example of how it can result in sub-optimal decision-making.
4. Explain the possible relationship between herd behaviour and overconfidence.
5. With reference to an example, explain how a 'vivid' account can affect the ability of a consumer to make rational decisions.
6. Using an example from your personal experience, explain the status quo bias.
7. Explain the anchoring effect and provide an example of how it can influence consumer decisions.
8. Explain framing and give an example of how it is used in advertising to generate increased sales.
9. Distinguish between statistical and emotional framing.
10. Explain loss aversion and provide an example of how this can lead to sub-optimal decision-making.
11. Explain what is meant by present bias (time inconsistent preferences) and provide an example.
12. Describe how a lack of self-control can lead to consumers overvaluing the present.

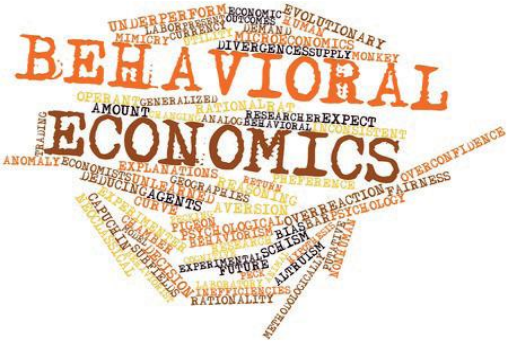
Application Exercise 5j: Your decision-making errors & biases

Complete the table by providing an example of how each of the decision-making errors/biases could affect or has affected a decision you have made. In answering, consider how each decision-making error/bias could lead you to make a less-than-100 per-cent-rational choice in a particular context. It does not have to be a real example, but you should attempt to make it realistic. The first one has been done for you.

Factor	Example
Overconfidence bias	You are overconfident about your ability to understand and write up an Economics research task. Consequently, you underestimate how long it will take to complete it, leaving it too late to begin the task. The result is that your task is handed in late, and you lose marks.
Vividness	
Status quo bias	
Anchoring effect	
Herd behaviour	
Framing bias	
Loss aversion	
Availability	

5.2 The differences between traditional economics and behavioural economics

Traditional economics has a long history (it can be traced back to the 18th century) and was heavily influenced by the historical period known as The Enlightenment or 'Age of Reason' when there was a flowering of scientific thought. It claims great economic thinkers such as Adam Smith, Jean Baptiste Say, David Ricardo, Thomas Malthus and Anne Robert Jacques Turgot. Traditional economics uses models with simplifying assumptions to explain the behaviour of economic agents, including the assumptions that consumers strive to maximise utility, while businesses aim to maximise profit (as was outlined in Chapter 2). In terms of models, you were introduced to the demand and supply model in Chapter 3. This model is a reasonable approximation of consumer behaviour in many situations. For example, if the price of coffee increases, utility maximising consumers operating within a budget constraint can be expected to demand smaller quantities of coffee as per the law of demand. Consumers are also likely to increase their demand for substitutes such as tea. Similarly, if the price of milk increased, the utility maximising consumer will respond to this information by demanding fewer complementary goods, such as breakfast cereals. Here, the increase in the price of milk has increased the cost of consuming breakfast cereals relative to the benefits. These patterns of consumer behaviour are consistent with the notion of 'homo economicus' or rational economic man (person).



On the other hand, Behavioural Economics is a relatively new field of enquiry, and can be dated to the 1970s. It relies on experiments including randomised control trials (as mentioned later in this chapter) to substantiate its claims. It also draws heavily on the discipline of psychology to inform its theories. Unlike traditional economics, behavioural economics highlights that consumers often fail to maximise their utility because their decisions are not always based on purely rational considerations, as we have already discovered in Section 5.1. For example, when making decisions, consumers tend to rely on time-saving heuristics or 'mental shortcuts', resulting in decision-making biases and errors. Moreover, consumers do not necessarily act as isolated individuals when making decisions, and are influenced by the decisions of others, such as their peers or the 'herd'. Further, consumers often fail to learn from their mistakes and, as a result, tend to repeat them. Emotions also affect consumers' decisions leading them to make choices they later regret. This is because consumers often lack self-control, seek immediate gratification and are short-sighted in the sense that they do not adequately consider the long-term consequences of their choices. In other words, consumers often succumb to present bias, which is in contrast to traditional economics, which assumes that consumers have control over their

appetites and urges. That is, consumers are coolly rational like Mr. Spock from the sci-fi entertainment franchise Star Trek. Lastly, behavioural economics postulates that consumers are social beings, and as such, care about fairness. Central to fairness is the notion of reciprocity or the tendency to want to return another's action with an equivalent action. This challenges the assumption of traditional economics that states that consumers are motivated by narrow self-interest.

In summary, traditional economics sees consumers as rational, utility maximising economic agents. On the other hand, behavioural economics contends that consumers simply 'muddle along' and make decisions that are 'good enough'. That is, consumers are satisficers rather than utility maximisers. Behavioural economics can be seen as building on the understandings of consumer behaviour articulated by traditional economics.

Review Questions 5.2

1. Briefly summarise the traditional view of consumer behaviour.
2. Briefly summarise the view of consumer behaviour held by behavioural economists.
3. Contrast traditional economics with behavioural economics, providing three separate examples to illustrate.

5.3 The effectiveness of strategies used by government to influence consumer behaviours

Governments are keen to use the insights of behavioural economics to develop effective strategies for influencing consumer behaviour. For example, the Federal Government established the **Behavioural Economics Team** (BETA) within the Department of Prime Minister and Cabinet to:

> ***'advance the wellbeing of Australians through the application and rigorous evaluation of behavioural insights to public policy and administration.'***

An aspect of behavioural economics is nudging, which describes a technique that uses subtle and cost-effective strategies to influence consumer behaviour. The Federal Government, through BETA, has embraced nudging as an alternative to some of the more traditional strategies for changing consumer behaviour. In their ground-breaking book *Nudge: Improving decisions about health, wealth and happiness*, behavioural economists, Richard Thaler and Cass Sunstein define a **nudge** as:

> ***'…any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not.'***

In their definition of a nudge, Thaler and Sunstein use the term **choice architecture**, which simply describes the context in which options are presented. Choice architecture is synomous with **framing**, which was explored in the section on decision-making errors and biases. Thaler and Sunstein argue that the context can have a significant influence over the choices that consumers make. A related idea is the **choice architect** or those who are responsible for organising the context in which people make decisions. Choice architects are typically policy makers, such as benevolent or well-meaning government officials (such as BETA), who use the insights of behavioural economics to nudge or subtly coax consumers into making better choices.

Let's consider a well-known example of nudging from the international sphere instigated by the former First Lady, Michelle Obama, in her campaign against childhood obesity in the United States. This involved an arrangement with the popular children's TV program, Sesame Street, where they televised their much-loved characters eating healthy foods in a fun way. Evidence showed that associating Sesame Street characters with a piece of fresh fruit or vegetable increased the likelihood that children would eat those foods. It also made children feel that the foods tasted better. In this example, the choice architecture is Sesame Street characters eating fresh fruit and vegetables, and the choice architects are the United States Government and the Public Broadcasting Service (the television station that produces and broadcasts the show).

Another related example is from the Netherlands where white bread is consumed by school-aged children at three times the rate of wholegrain bread. However, a study showed that cutting the healthier wholegrain option into fun shapes almost doubled its consumption. Both of these examples demonstrate that children can be 'nudged' into making better choices, simply by making healthy food appear more fun.

In Australia, the Federal Government has used nudging to tackle the ballooning cost of reimbursing doctors for providing after-hours care. There are two categories of after-hours care: urgent and non-urgent. Doctors are remunerated at roughly twice the rate for rendering urgent after-hours care. Further, it is left to the doctors themselves to determine whether an after-hours consultation is deemed urgent or non-urgent, and therefore how much they can claim for their

services. The Department of Health's behavioural economists identified the 1200 doctors with the highest urgent after-hours claims, and ran a randomised control trial, where they sent each doctor one of three alternative letters.

The first letter compared the doctor's billing practices with other doctors, showing they were claiming the urgent category far more frequently. This letter tapped into the behavioural insight that people are often motivated to change their behaviour when it does not conform to that of their peers. The tendency for people to take cues for right or proper behaviour from the actions of others when making decisions is known as the **conformity bias**. This highlights the role and importance of **social norms** when making decisions. This is no surprise given people are social beings.

The second letter stressed the consequences of non-compliance, including the penalties and possible legal action. This letter drew on the behavioural insight known as **loss aversion**, where people prefer avoiding losses to acquiring equivalent gains. As discussed earlier, research suggests that losing something makes people twice as miserable as gaining the same thing makes people happy. Loss aversion is yet another example of a decision-making bias.

The third letter was the control. It was a standard compliance letter albeit three pages in length.

The findings of this experiment highlighted how the insights of behavioural economics could be used to bring about a change in behaviour. All three letters were effective in reducing the number of urgent after-hours claims, but the first peer-comparison letter was far more effective than the second loss-framing letter and the third standard compliance letter. The peer-comparison letter reduced claims by 24 per cent. This impressive result was achieved with a simple nudge that tapped into the conformity bias rather than a threat of punishment. Within six months of sending out these letters, 1200 high-claiming doctors reduced their claims by over $11 million, and 18 doctors voluntarily owned up to more than $1 million in previous incorrect claims. Such a result represents a saving for the healthcare system and ultimately taxpayers. It shows just how effective nudges can be.

Although conformity bias and social norms were not discussed earlier, they too are examples of influences on the decision-making processes highlighted by behavioural economics. The key point is that behavourial economists at the Department of Heath were able to exploit these biases or chinks in people's 'psychological armour' to address the issue of overbilling by doctors.

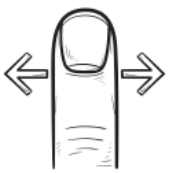
The term **soft paternalism** has been used to describe the use of nudges to change people's behaviour. This is in stark contrast to imposing sanctions, such as heavy financial penalties, or even removing choice altogether by imposing outright bans on the consumption of certain products. These more traditional strategies can be described as **shoves** or **smacks** and are examples of **hard paternalism**.

The Federal Government's compulsory superannuation scheme, which compels employers to contribute the equivalent of at least 9.25% (known as the superannuation guarantee) of their employees' wages or salaries to a superannuation fund of their choice can be seen as hard paternalism. This government policy acknowledges that most people do not possess an 'iron will' to adequately save for their retirement. Enforced savings aims to ensure that people have enough income to support themselves in retirement. Australia's compulsory superannuation scheme simply reflects the behavioural insight that people are prone to 'present bias' and have 'bounded willpower'. It is also an example of a 'smack'.

Application Exercise 5k: Novel Nudges!

Investigate one novel approach to 'nudging' from around the world. For example:

- The piano stairs at Odenplat subway station in Stockholm, Sweden.
- The world's deepest bin, which was set up in a public park in Sweden.
- Fly stickers etched into the urinals at Amsterdam's Schiphol airport in the Netherlands.
- The 3 light system: red, yellow and green for food served at the cafeteria at Massachusetts General Hospital, USA.
- The Dollar-a-Day programme to reduce teenage pregnancies in Greensboro, North Carolina, USA.



Prepare a brief (2-minute) oral report to the class covering the 5 Ws of the nudge.

- Who is the choice architect?
- What is the choice architecture?
- When was it implemented?
- Where was it implemented?
- Why was it implemented and has it been successful? Provide evidence, if possible.

Application exercise 5l: Nudge, Shove or Smack?

Examine the scenarios in the following table and shade the relevant box to indicate whether each scenario could be considered a 'nudge' or a 'shove' (or even so punitive as to be considered a 'smack'). Be prepared to justify your answers in a classroom discussion. The first one has been done for you.

Scenario	Nudge?	Shove?	Smack?
1. Placing healthy food at eye level on supermarket shelves.			
2. Increased private health insurance premiums for those who smoke or who are overweight.			
3. A sugar tax imposed on soft drinks.			
4. TV commercials promoting physical activity (e.g. 'Life Be In It').			
5. Quit smoking campaigns.			
6. Government introduces an opt-out organ donation register, where all registered drivers are listed as organ donors unless they opt out.			
7. Your school canteen bans Coke, potato chips and chocolate.			
8. Excise tax on cigarettes.			
9. Ensuring there is an open-access set of stairs next to each elevator in an office building, and posting signs encouraging employees to use the stairs for short trips between adjacent floors.			
10. Low-fat milk being the default option for hot beverages served at McDonald's.			
11. Requiring office staff to enter their pin number at the machine, in order to release jobs from the office printer.			
12. Banning the use of mobile phones while driving.			
13. A school installs a vending machine, locating it in the foyer of the gym, which is a long way from the main part of the school.			
14. Bans on driving on certain days.			
15. Providing free council 'green waste' and organic waste bins for every house, and regular collection of the waste.			
16. Placing labelled recycling bins next to each rubbish bin in a school.			
17. Cashless debit cards for welfare recipients that prevent them from using their welfare payments on alcohol and gaming.			
18. Compulsory superannuation for all workers.			

Application Exercise 5m: Britain's sugar tax

The British Government in 2018 introduced a 'sugar tax' to curb the country's childhood obesity epidemic. The tax applies to high-sugar, fizzy drinks such as Coca-Cola and Pepsi, which are popular among teenagers. The tax applies in two bands (categories) according to the sugar content of drinks. Drinks with a sugar content above 5g per 100 millilitres, such as Dr Pepper, Fanta and Sprite, are taxed at a slightly lower rate compared to those drinks in a second, higher band. The higher band applies to the most sugary drinks –those with more than 8g of sugar per 100 millilitres, such as Cocoa-Cola, Pepsi and Lucozade. Experts noted the tax would add between 18p and 24p per litre to the price of such drinks. Pure fruit juices and flavoured milk are exempt from the tax. The smallest producers of fizzy drinks are also exempt from the scheme.

The tax deliberately targets high-sugar, fizzy drinks because of their popularity and extremely high sugar content – about nine teaspoons per can, which is more than the total recommended daily intake of sugar. Such drinks are also consumed on a daily basis, and unlike other high sugar foods such as chocolate, they are not seen as a treat. Further, they have no nutritional benefit; that is, they are just 'empty calories'.

High profile celebrity chef and restaurateur, Jamie Oliver, has been a vocal campaigner for the tax. Academic research reported in May 2019 that major producers, Coca Cola and Pepsi, both reported substantial increases in sales of their sugar-free range, and falls in the sales of their full-sugar products. The UK Government reported in November 2018 that the tax had raised over £150m since its introduction in April that year.

Questions

1. **Explain how the sugar tax discourages the consumption of high-sugar fizzy drinks. Refer to prices in your answer.**
2. **Evaluate the likely effectiveness of the sugar tax. Hint: consider its strengths and weaknesses and consider what you have learned about habit, and the impact of marketing on consumer behaviour.**
3. **Explain how you believe the government should spend the revenue it collects from the sugar tax. Justify your choice – if possible with the use of economic reasoning.**
4. **Obesity has been described as 'the new smoking'. Explain this statement.**

Note: Symbols for British currency: p=pence, £=pounds

Application Exercise 5n: Britain's sugar tax

Australia ought to follow Britain's lead and introduce a sugar tax.

Identify where you stand with respect to this proposition on the human agreement line and provide an argument to support your view, in 150 words or less.

Against ⟷ For

Application Exercise 5o: Investigation

Investigate how governments use the insights of behavioural economics to devise strategies to influence consumer behaviour. In your investigation you should identify the decision-making biases or errors the selected strategies seek to exploit. Note, there are numerous heuristics that consumers employ that result in decision-making errors and biases. You don't necessarily need to use those covered in this chapter, as this textbook only provides a selection of them. You should also evaluate the effectiveness or otherwise of the strategies investigated using appropriate supporting evidence.

The investigation can be in the form of a short oral presentation or short report.

Review Questions 5.3

1. Explain what is meant by a nudge and provide a practical example of how it can be used to influence consumer behaviour.
2. Distinguish between a choice architect and choice architecture, and provide an example to highlight the distinction.
3. Explain how the Department of Health's behavioural economists harnessed behavioural insights to save taxpayers money.
4. Explain the difference between soft paternalism and hard paternalism, and provide examples to highlight the difference

5.4 The effectiveness of strategies used by producers/businesses to influence consumer behaviours

Businesses also tap into the insights offered by behavioural economics to influence consumer behaviour. For example, in 2021 the U. S. payments fintech Square announced its intention to acquire Afterpay, an Australian Buy Now, Pay Later (BNPL) business for $39 billion. This underscores the wildly successful and hugely profitable nature of BNPL businesses. Other businesses are clamouring for a lucrative slice of the BNPL market too, with the Commonwealth Bank launching Step Pay, and tech giant Apple introducing Apple Pay Later. BNPL schemes tap into **present bias** or the desire among consumers for immediate gratification without giving too much thought to the possible future negative consequences of such choices. The entrepreneurs behind BNPL schemes recognised that people possess **bounded willpower.** Such schemes are incredibly popular with consumers, but are not without dangers. Just like credit cards, it can be very tempting to overspend with BNPL schemes, which can result in the accumulation of excessive debt and crippling interest payments.

There are many other examples of businesses exploiting the problems that consumers have exercising self-control. For example, gym memberships are designed to appear as though they are good value. This is true only if those who sign up for a membership possess the discipline or willpower to use the gym's facilities regularly for the duration of the contract. Similarly, banks will typically take advantage of the fact that many consumers have **procrastination bias**. The banks will ensure that they make it sufficiently difficult for mortgage borrowers (i.e. those borrowing from the bank to buy a home or property) to take their business to another financial institution. The requirement to complete lengthy and complex documents, including the need to provide proof of identity, credit details, tax records, as well as new property valuations and the possibility of deferred establishment fees makes it very easy for consumers to 'procrastinate' given the time and energy involved in securing a 'better deal'. In Economics, these costs are often referred to as **transaction costs** and they largely explain why households take a long time (if at all) to switch from one mortgage provider (e.g. a bank) to another, even though the

interest rate they are paying on their mortgage (housing loan) could be lowered significantly, saving them thousands of dollars.

Smart advertisers also employ **framing** to great effect. Advertising agencies know that the way they 'frame' messages for their clients can influence the choices that consumers make, and in doing so make a significant difference to their clients' bottom line. For example, Ashley and Martin medical hair loss treatments claim a 98 per cent success rate based on 500,000 patients treated worldwide. A success rate of 98 percent sounds much better than a failure rate of 2 per cent, and is more likely to elicit the desired response from potential patients. Similarly, food manufacturers will often highlight the supposed benefits of their products with claims such as '97% fat free', which of course is a much less confronting way of revealing that the product contains 3% fat.

Supermarkets place confectionery items at checkouts to exploit the **availability heuristic,** and to incite consumers to impulse buy confectionary items (e.g. about the net benefits of consuming a chocolate bar) and impulse buy confectionery items. While insurance companies and financial institutions such as banks often provide significant rewards for switching to their service, they are much less likely to provide any benefit for 'loyal' customers knowing that most people have a preference to remain with the **status quo**. Further, they often increase fees year-on-year, so those who don't regularly shop around often pay a premium.

All these examples serve to highlight that businesses can employ various strategies to take advantage of the decision-making biases observed in consumers to boost their bottom lines.

Application Exercise 5p: Media Analysis [The decoy effect]

The decoy effect: how you are influenced to choose without really knowing it published in The Conversation: February 18, 2019
Gary Mortimer, Associate Professor in Marketing and Consumer Behaviour, Queensland University of Technology

Price is the most delicate element of the marketing mix, and much thought goes into setting prices to nudge us towards spending more. There's one particularly cunning type of pricing strategy that marketers use to get you to switch your choice from one option to a more expensive or profitable one. It's called the decoy effect. Imagine you are shopping for a Nutribullet blender. You see two options. The cheaper one, at $89, promotes 900 watts of power and a five-piece accessory kit. The more expensive one, at $149, is 1,200 watts and has 12 accessories. Which one you choose will depend on some assessment of their relative value for money. It's not immediately apparent, though, that the more expensive option is better value. It's slightly less than 35% more powerful but costs nearly 70% more. It does have more than twice as many plastic accessories, but what are they worth?

Now consider the two in light of a third option. This one, for $125, offers 1,000 watts and nine accessories. It enables you to make what feels like a more considered comparison. For $36 more than the cheaper option, you get four more accessories and an extra 100 watts of power. But if you spend just $24 extra, you get a further three accessories and 200 watts more power. Bargain! You have just experienced the decoy effect.

Asymmetric dominance

The decoy effect is defined as the phenomenon whereby consumers change their preference between two options when presented with a third option – the "decoy" – that is "asymmetrically dominated". It is also referred to as the "attraction effect" or "asymmetric dominance effect". What asymmetric domination means is the decoy is priced to make one of the other options much more attractive. It is "dominated" in terms of perceived value (quantity, quality, extra features and so on). The decoy is not intended to sell, just to nudge consumers away from the "competitor" and towards the "target" – usually the more expensive or profitable option.

The effect was first described by academics Joel Huber, John Payne and Christopher Puto in a paper presented to a conference in 1981 (and later published in the Journal of Consumer Research in 1982). They demonstrated the effect through experiments in which participants (university students) were asked to make choices in scenarios involving beer, cars, restaurants, lottery tickets, films and television sets. In each product scenario participants first had to choose between two options. Then they were given a third option – a decoy designed to nudge them toward picking the target over the competitor. In every case except the lottery tickets the decoy successfully increased the probability of the target being chosen.

These findings were, in marketing terms, revolutionary. They challenged established doctrines – known as the "similarity heuristic" and the "regularity condition" – that a new product will take away market share from an existing product and cannot increase the probability of a customer choosing the original product.

How decoys work

When consumers are faced with many alternatives, they often experience choice overload – what psychologist Barry Schwartz has termed the tyranny or paradox of choice. Multiple behavioural experiments have consistently demonstrated that greater choice complexity increases anxiety and hinders decision-making. In an attempt to reduce this anxiety, consumers tend to simplify the

process by selecting only a couple of criteria (say price and quantity) to determine the best value for money. Through manipulating these key choice attributes, a decoy steers you in a particular direction while giving you the feeling you are making a rational, informed choice. The decoy effect is thus a form of "nudging" – defined by Richard Thaler and Cass Sunstein (the pioneers of nudge theory) as "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options". Not all nudging is manipulative, and some argue that even manipulative nudging can be justified if the ends are noble. It has proven useful in social marketing to encourage people to make good decisions such as using less energy, eating healthier or becoming organ donors.

We see decoy pricing in many areas. A decade ago behavioural economist Dan Ariely spoke about his fascination with the pricing structure of The Economist and how he tested the options on 100 of his students. In one scenario the students had a choice of a web-only subscription or a print-only subscription for twice the price; 68% chose the cheaper web-only option. They were given a third option – a web-and-print subscription for the same price as the print-only option. Now just 16% chose the cheaper option, with 84% opting for the obviously better combined option. In this second scenario the print-only option had become the decoy and the combined option the target. Even The Economist was intrigued by Ariely's finding, publishing a story about it entitled "The importance of irrelevant alternatives".

Subscription pricing for The Australian replicates this "irrelevant alternative", though in a slightly different way to the pricing architecture Ariely examined. Why would you choose the digital-only subscription when you can get the weekend paper delivered for no extra cost? In this instance, the digital-only option is the decoy and the digital+weekend paper option is the target. The intention appears to be to discourage you from choosing the more expensive six-day paper option. Because that option is not necessarily more profitable for the company. What traditionally made print editions profitable, despite the cost of printing and distribution, was the advertising they carried. That's no longer the case. It makes sense to encourage subscribers to move online.

Not all decoys are so conspicuous. In fact the decoy effect may be extremely effective by being quite subtle. Consider the price of drinks at a well-known juice bar: a small (350 ml) size costs $6.10; the medium (450 ml) $7.10; and the large (610 ml) $7.50. Which would you buy? If you're good at doing maths in your head, or committed enough to use a calculator, you might work out that the medium is slightly better value than the small, and the large better value again. But the pricing of the medium option – $1 more than the small but just 40 cents cheaper than the large – is designed to be asymmetrically dominated, steering you to see the biggest drink as the best value for money. So have you just made the sensible choice, or been manipulated to spend more on a drink larger than you needed?

Questions

1. **Explain the decoy effect using the Nutribullet to illustrate your response.**
2. **A related concept is asymmetric domination. Explain asymmetric dominance.**
3. **Explain the tyranny or paradox of choice, and how this supports the idea that consumers exhibit bounded rationality.**
4. **Describe how the decoy effect can be seen as a form of nudging.**
5. **Explain how 'The Australian' newspaper uses the decoy effect to nudge consumers into making a choice that is in the best interests of the newspaper.**

Extension: Run the juice bar experiment described in this article with 10 of your peers. You should pick students or friends who are not studying Economics. You might want to print images of the three sizes of juice drinks with their prices on a single sheet of paper to show the participants in this experiment. Record your findings. Repeat the same experiment with another 10 of your peers or friends. This time omit the decoy size (the medium). As before, you might want to print images of the two sizes of juice drinks with their prices on a single sheet of paper. Ask the experiment participants, which size they would pick. Record your findings. Reach a conclusion based on evidence as to whether the decoy effect works. This experiment could also be done with popcorn sold at the cinema.

Application Exercise 5q: Investigation

Investigate how businesses use the insights of behavioural economics to devise strategies to influence consumer behaviour. In your investigation you should identify the decision-making biases or errors the selected strategies seek to exploit. Note, there are numerous heuristics that consumers employ that result in decision-making errors and biases. You don't necessarily need to use those covered in this chapter, as this textbook only provides a selection of them. You should also evaluate the effectiveness or otherwise of the strategies investigated using appropriate supporting evidence.

The investigation can be in the form of a short oral presentation or short report.

Review Questions 5.4

1. Explain why Buy Now, Pay Later (BNPL) businesses have become hugely profitable. In your answer, refer to present bias and bounded willpower.
2. Outline why problems that people have with 'self control' work to the benefit of gyms or fitness centres.
3. Explain how the existence of procrastination bias and transaction costs benefit Australian banks.
4. Describe how businesses or advertisers use framing to encourage consumption of some products.
5. Outline how supermarkets can exploit the availability heuristic to encourage impulse buying.
6. Outline how the status quo bias benefits insurance companies.

Application Exercise 5r: Anchoring and the iPhone 14

The tech giant and multi-national corporation Apple Inc. competes in a number of markets from smartphones to tablets and laptops. It is a public company listed on the NYSE (Wall Street) with a share price of USD157.37 and a market capitalisation of USD 2.53 trillion (as at September 10, 2022).

The market for smartphones, in which Apple is a major player along with the likes of Samsung, OPPO and Google, can best be described as an oligopoly. In this type of market structure a few, very large businesses each possess a significant market share or percentage of total sales, and competition is usually based on non-price factors, such the product's appearance and features, and the quality of customer support. Indeed, product differentiation and a small number of competitors bestows a degree of market power or the ability to set prices. For this reason, oligopolists, such as Apple, are said to be price makers. The presence of only a few, large businesses can be attributed to high barriers to entry. In the case of smartphones, the prohibitively large sums of money that must be invested into research and development (R&D) to constantly develop and improve the technology can be a significant obstacle to new firms entering and competing in the market.

Apple recently launched its much-vaunted and eye-wateringly expensive new smartphone, the iPhone 14 to great fanfare. However, some consumers are prepared to stump up AUD 2769 for the top of the range iPhone Pro Max 14 (1TB). These people typically have a strong emotional connection to the brand, which Apple has carefully cultivated since its inception. Some commentators refer to the "cult of Jobs", referring to Apple's late founder and CEO, Steve Jobs. It could be said that Apple's products have a cult-like following: its numerous devotees are a testament to this and they also have a strong need to possess the latest technology. Further, these 'devotees' aren't particularly responsive to price. The term low price elasticity of demand (PED) is used by economists to describe this reality. These people can be found camping outside an Apple store the night prior to the launch date to be the first to get their hands on this much-coveted product.

Those consumers that are prepared to pay AUD 2769 for an iPhone Pro Max 14 can be described as high-value consumers because of their willingness to pay a relatively high price. Apple is well aware of this and uses its market power to set the price high to extract as much of the consumer surplus as possible in order to maximise revenue and profit. [The consumer surplus is the difference between the amount that a consumer is willing and able to pay for a product and the market price they actually pay.] Over time, Apple will reduce the price of the iPhone 14 to generate sales from low-value consumers or more specifically, consumers who are unable or unwilling to pay a relatively a high price.

The steep price tag of AUD 2769 also serves another purpose: anchoring. According to Harvard University's Program on Negotiation "…. Anchoring is a cognitive bias that describes the common human tendency to rely too heavily on the first piece of information offered (the "anchor") when making decisions. During decision making, anchoring occurs when individuals use an initial piece of information to make subsequent judgments. Once an anchor is set, other judgments are made by adjusting away from that anchor, and there is a bias toward interpreting other information around the anchor." [https://www.pon.harvard.edu/tag/anchoring-effect/].

The price tag of AUD 2769 for the top of the range for the iPhone Pro Max 14 (1TB) effectively acts as an "anchor" for the entire iPhone line. Although many consumers are not prepared to pay this large sum of money for an iPhone 14, the hefty price tag serves to change the way they think about Apple's other product offerings. That is, it essentially makes the prices of other iPhone models more attractive, such as the 512GB iPhone 13 at AUD 1749 or the 512GB iPhone Plus 12 at AUD 1579. So, anchoring can be used to generate more sales of other products in the iPhone stable, while at the same time enabling Apple to extract as much of the consumer surplus as possible from those high-value consumers who are prepared to pay the price attached to an iPhone 14.

Using anchors to make snap decisions is an example of what the behavioural economists and winners of the Nobel prize in Economics, Daniel Kahneman and Amos Tversky called thinking fast. This is where very little mental effort is expended when making a decision. It is the opposite of thinking slow which describes the careful consideration that typically goes into making big decisions such as which house to buy or whether to make a marriage proposal to the person you have been dating. Thinking fast is also aided by what Kahneman and Tversky dubbed heuristics or mental shortcuts. These rules of thumb are essentially a substitute for thinking hard about a decision. People resort to rules of thumb because they are generally busy, lead complicated lives and are time poor, making it impossible to analyse the minutiae of every decision. Thus, rules of thumb can be a convenient and useful tool in the decision-making process. Using the price of the iPhone Pro Max 14 as an anchor to make a judgement about whether other iPhone models are good value or not, is an example of a heuristic. In short, anchoring exploits this cognitive bias of consumers in the decision-making process.

Although heuristics or mental shortcuts such as the use of anchors can be good thing, they can also lead to irrational or anomalous choices. This occurs when consumers' judgements are unduly affected by an arbitrary starting value or anchor. The end result can be decisions that fail to maximise consumer satisfaction (or utility) at the lowest possible cost. Businesses are aware of such cognitive biases that affect consumer decision making and seek to exploit this chink in the psychology of consumers. This is why practices such as anchoring are so common. These practices are sometimes called "supermarket psychology". The lesson for consumers is to be more attuned to these cognitive biases and to perhaps take the time to think more slowly.

Questions [Note that for some of these questions you will need to refer to the glossary and Chapter 4 on market structures.]

1. **Describe the characteristics of an oligopoly.**
2. **Define market power and outline how it is connected to the characteristics of an oligopoly.**
3. **Define low price elasticity of demand.**
4. **Describe why some consumers are prepared to pay AUD2769 for an iPhone 14.**
5. **Define consumer surplus.**
6. **Distinguish between a high-value and a low-value consumer and outline how businesses such as Apple use this concept when making pricing decisions.**
7. **Explain anchoring and how it is used by businesses such as Apple to generate sales.**
8. **Distinguish between thinking fast and thinking slow.**
9. **Explain why consumers resort to heuristics.**
10. **"Although anchors can be useful decision-making tools, consumers must be alert to them". Analyse this statement.**

5.5 Multiple choice review questions

1. The Nash equilibrium is

a) 99/1
b) 80/20
c) 50/50
d) 0/100

2. Which of the following concepts is not associated with behavioural economics?

a) Satisficing behaviour
b) Utility maximisation
c) Bounded rationality
d) Heuristics

3. Which combination of statements regarding nudges is incorrect?

i. Nudges rely on heavy financial penalties
ii. Nudges rely on the use of sanctions
iii. Nudges often employ framing
iv. Nudges can be described as soft paternalism

a) Statements i & ii.
b) Statements ii & iii.
c) Statements iii & iv.
d) Statements i& iv.

4. Which of the following would not be considered to be a nudge?

a) Placing healthy foods at eye level on supermarket shelves
b) Low-fat milk being the default option for hot beverages served at cafes
c) TV commercials promoting physical activity
d) A sugar tax

5. Which statement regarding the decision-making bias/error known as present bias is incorrect?

a) People undervalue the future.
b) People's preferences are consistent over time.
c) Procrastination contributes to present bias.
d) People overvalue the present.

6. Which of the following actions would be classified as a 'nudge'?

a) The introduction of an 'obesity tax' on high fat foods
b) Placing bottled water at eye level in vending machines
c) Increased private health insurance premiums for those who smoke tobacco
d) Cars with odd-numbered number plates and cars with even-numbered number plates alternating the days the week when they can drive in the central business district (CBD)

7. The Australian Government is trying to increase the number of organ donations. It is considering an opt-out scheme, where people over 18 are assumed to have consented to donate their organs unless they opt out. It is expected this will increase the rate of organ donations. In terms of influences on human decision-making, this is an example of

a) herd behaviour
b) framing bias
c) overconfidence bias
d) status-quo bias

8. The behavioural economist and Nobel laureate, Daniel Kahneman, claimed that 'employers who violate rules of fairness are punished by reduced productivity, and merchants (businesses) who follow unfair pricing policies can expect to lose sales.' Which aspect of behavioural economics does this quote relate to best?

a) Bounded self-interest
b) Thinking slow
c) Self-control
d) Bounded will-power

9. A cognitive bias which asserts that consumers dislike losses about twice as much as they like gains.

a) Reference dependence
b) Loss aversion
c) Availability
d) Anchoring

10. Which of the following is connected to Thinking System 2.

a) Intuitive
b) First impressions
c) Heuristics
d) Deliberative

11. Mandating wearing of seat belts is an example of

a) A shove and hard paternalism
b) A smack and soft paternalism
c) A shove and soft paternalism
d) A smack and hard paternalism

12. Which statement relating to moral hazard is incorrect?

a) Moral hazard is evident in insurance markets
b) Moral hazard is a problem that occurs prior to an economic transaction
c) Moral hazard illustrates the concept of perverse incentives
d) Moral hazard affects the wellbeing of a party to an economic transaction

13.Consider the following prospect.
The probability of winning $2,000 is 95 per cent, and the probability of not winning is 5 percent. The expected value of the prospect is.

a) $0
b) $1,900
c) $1,950
d) $2,000

14. In the context of behavioural economics, offering three sizes of popcorn: large, medium and small at the cinema is an example of

a) Nudging and the decoy effect
b) Profit maximisation and utility maximisation
c) Loss aversion and cognitive biases
d) Bounded rationality and the status quo bias

15. The ultimatum game illustrates the behavioural insight of

a) Bounded self-interest
b) Bounded willpower
c) Bounded rationality
d) Imperfect information

16. Which of the following are examples of 'nudges' to reduce the road toll?

i. The use of speed cameras and speeding fines
ii. 'Touched by the toll' decals (stickers)
iii. Reporting road fatality statistics in the news
iv. Demerit points for speeding offences and the potential cancellation of licences
v. Increased presence of 'booze buses' checking blood alcohol content of drivers

a) i & ii.
b) ii & iii.
c) iii & iv.
d) iv & v.

17. Which of the following is not associated with traditional economics?

a) Homo economicus
b) The law of demand
c) Self-control problems
d) Adam Smith

18. With reference to decision making by consumers, select the odd one out.

a) Rule of thumb
b) Mental shortcut
c) Relatively unconscious
d) Reflective and analytical

19. Which of the following ideas is not relevant to an understanding of bounded rationality?

a) Time constraints
b) Perfect information
c) The complexity of decisions
d) The brain's cognitive limitations

20. Consider the following puzzles, relating to Kahneman and Tversky's theory of dual system thinking.
A bat and ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost? If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? The correct answers are

a) 10 cents and 100 minutes
b) 10 cents and 5 minutes
c) 5 cents and 100 minutes
d) 5 cents and 5 minutes

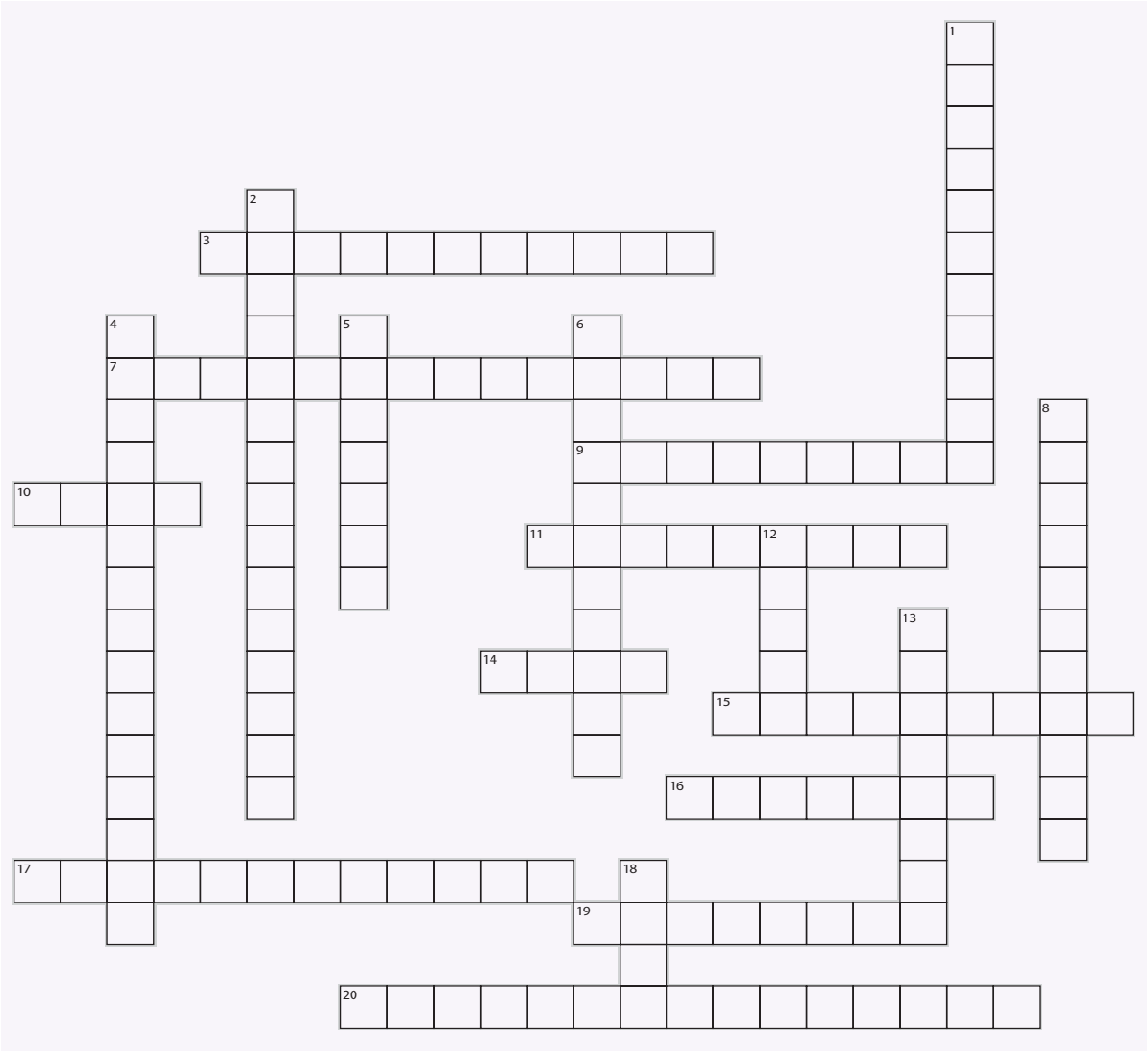
5.6 Chapter crossword puzzle

Across

3. The costs associated with making economic decisions
7. A decision-making bias where consumers overestimate their ability to make optimal decisions
9. Reference dependence is another term for this heuristic
10. A popular payments scheme that takes advantage of present bias (acronym)
11. The tendency for consumers to downplay a wealth of information, and instead focus on a single piece of information that 'stands out' for some reason when making a decision
14. Another term for 'crowd' behaviour
15. A rule of thumb or mental shortcut
16. In the context of behavioural economics, how options or propositions are presented
17. The tendency to prefer avoiding losses to acquiring equivalent gains (2 words)
19. Businesses use these to take advantage of the status quo bias
20. A person or organisation responsible for creating the context in which people make decisions (2 words)

Down

1. Where consumers make decisions that are good enough
2. Where consumers put off making decisions
4. Where the government uses nudges to change people's behaviour (2 words)
5. A term that means 'limited' in the context of behavioural economics
6. A field of economics that seeks to incorporate the insights of psychology into economics
8. A type of framing
12. Subtly coaxing people into making 'good' choices without having to resort to heavy financial incentives or sanctions
13. In the context of behavioural economics, the human tendency to want to reciprocate or return another person's action with an equivalent action
18. An acronym for a government agency with expertise in behavioural economics



5.7 Chapter summary

1. Behavioural economics incorporates the insights from psychology into economics to enhance its explanatory power.
2. Practitioners of behavioural economics are called behavioural economists.
3. Behavioural economics includes three insights into how people make decisions: bounded rationality, bounded willpower and bounded self-interest.
4. Bounded rationality is the idea that people are satisficers. That is, they make decisions that are 'good enough' (as distinct from decisions that maximise utility) because of the availability of information, the complexity of decisions, the brains' cognitive limitations and time constraints.
5. Heuristics are mental shortcuts or rules of thumb that consumers use to make fast and frugal decisions. However, the use of heuristics can result in decision-making errors and biases.
6. System 1 Thinking is based on the use of heuristics whereas System 2 Thinking is associated with conscious thought.
7. Consumers are prone to decision-making biases and errors, such as overconfidence, vividness, status quo, anchoring, herd behaviour, present bias, availability, loss aversion and framing, which mean that people are incapable of maximising their utility. That is, they are satisficers rather than utility maximisers.
8. Framing can be emotional or statistical.
9. Bounded willpower acknowledges that people have self-control problems in some aspects of their lives and thus can succumb to their urges, appetites and emotions when making decisions.
10. Bounded self-interest is the idea that people care about fairness. That is, even though a deal or proposal might make them better off they will reject it if they perceive it to be unfair.
11. Governments have drawn on the insights of behavioural economics and employ 'nudges' to subtly coax consumers into making better choices, such as eating healthier foods. Nudges employ framing to accomplish this goal.
12. Nudges are facilitated by choice architects who set the choice architecture.
13. Businesses have also drawn on the lessons from behavioural economics to exploit the 'chinks' in consumers 'psychological armour' to maximise revenue and profit.
14. Traditional economics has a long history and pre-dates the relatively new field of behavioral economics.
15. The major differences between traditional economics and behavioural economics include the former's reliance on assumptions and economic models, and the latter's reliance on psychological insights and experiments.

Chapter 6
Economic activity

6.1 The nature and purpose of economic activity

In Chapter 1, we said that economic activity takes place because it helps to improve **living standards**, both in **material** and **non-material** terms. We said that there is typically a positive correlation between economic activity and living standards, such that an increase in economic activity leads to an increase in living standards. This is because the earning of income leads to expenditure on goods and services that provides people with additional satisfaction. However, living standards are not only related to the ability to consume goods and services and will depend on both material and non-material factors that determine our overall living standards.

Material living standards

Australian governments are keen to stimulate growth in production as measured by growth in **real gross domestic product**, or real GDP, over time. [Real GDP will be covered shortly and is the main statistical measure of production.] Growth in real GDP is also referred to as **economic growth** and it means that there has been an increase in the real values of production, income and expenditure from one period to another. Any increase in real GDP or economic activity will help to raise material living standards, on average, for Australian households. Higher production levels lead to more incomes and/or employment, enabling households to purchase more goods and services, thereby increasing their material prosperity. This is referred to as an increase in **material living standards,** and is most commonly measured by increases in **real GDP per capita**, which is an indicator of the average value of production or income generated by each person in Australia.

Non-material living standards

Clearly, there is more to our living standards than the ability to purchase goods and services. In other words, there exists a wide range of factors that influence our well-being beyond our ability to purchase a newer car or house, more fashionable clothes, or the latest technological gadgetry. These influences are often referred to as 'non-material' or '**quality of life**' factors that impact on our overall living standards. These include the following types of factors:

- Access to clean air, water and other natural resources
- Access to health and education services
- Congestion or pollution levels
- Depletion of resources
- Exposure to crime
- Job satisfaction levels
- Leisure time
- Stress levels
- Life expectancy
- Freedom of expression
- Income and wealth inequality
- General happiness levels
- Quality of goods and services available
- Levels of gender equality
- Lack of social conflict.

Study tip

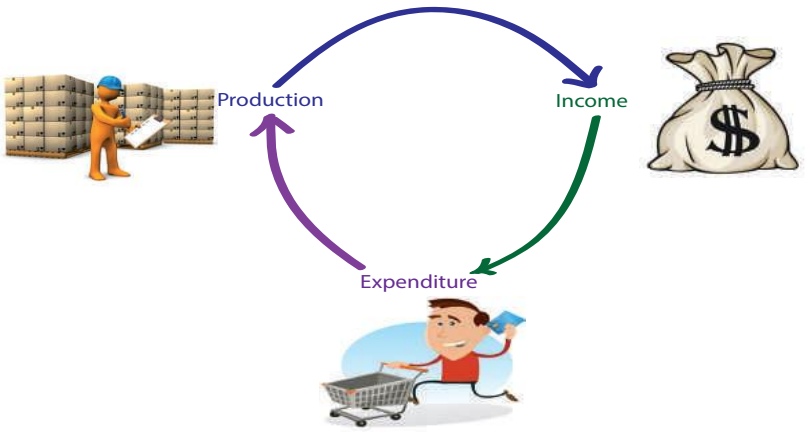
A better measure of material living standards in Australia is 'real net national disposable income per capita'. It focuses on incomes earned by Australians rather than values of production and provides a more accurate measure of changes in spending power, on average, over time. This is covered later when discussing the limitations of real GDP per capita as a measure of living standards.

Some of the factors above relate to the non-material benefits attached to any growth in economic activity, such as the satisfaction gained from employment or the reduced stress levels associated with earning an income and building a stockpile of wealth. However, a number of the factors on the list are non-material costs associated with economic

growth. This includes congestion, pollution and depletion of resources. The benefits of economic growth will always need to be weighed up against the costs of economic growth when determining the overall impact on living standards.

In Section 1.6 of Chapter 1, the concept of **economic activity** was introduced and defined as the production, income and expenditure that takes place across the whole economy. **Production** refers to the total value of goods and services that are produced in an economy. **Income** refers to the total incomes that have been earned by those who have contributed to the production of those goods and services and **expenditure** refers to the total spending undertaken on the goods and services being produced. It was noted that, over time, the total value of production, income and expenditure in an economy should be equal. This is because production is measured in monetary terms and must eventually be returned to factors of production (e.g. workers) in the form of income, which in turn is spent (i.e. expenditure) at some time in the future on various goods and services (i.e. production). This process is often characterised by a **circular flow diagram** as shown earlier and repeated in Figure 6.1 below:

Figure 6.1
Circular flow of income



This circular flow is a little more complex in reality. This is because some of the income that is earned by economic agents is redirected away from expenditure on Australian production. These are often referred to as **'leakages'** and are comprised of the following:

- **Savings** – money that is saved rather than spent on goods and services
- **Taxes** – money that is paid to governments in the form of tax
- **Imports** – money that is spent on goods and services that have been produced overseas

These leakages are not 'lost' to the circular flow of income in Australia because they are offset or balanced against **'injections'** that contribute to spending on Australian production. These injections are comprised of the following:

- **Investment demand** – spending on capital items like machinery and factories
- **Government demand** – spending by governments on goods and services
- **Export demand** – money that is spent on Australian goods and services by overseas residents

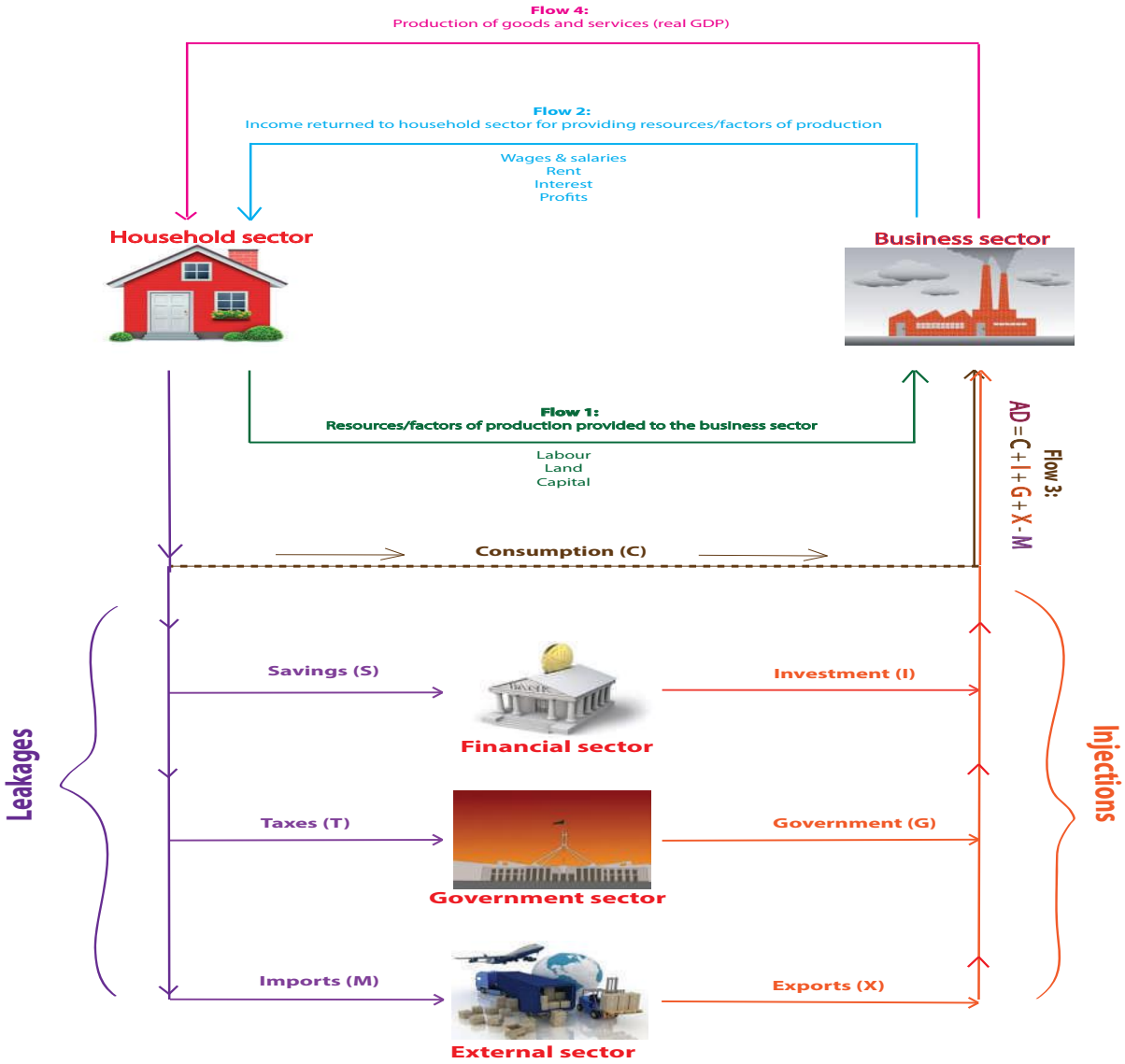
You should notice that the leakages are very closely linked to injections. In the case of **Savings** and **Investment**, any income that is saved will ultimately be directed to financial institutions (such as banks) who will then lend the money to economic agents (such as households and businesses). It is then eventually spent in the economy, often in the form of Investment. This means that Savings detract from (or reduce) economic activity and Investment adds to economic activity.

In the case of **Taxes** and **Government spending**, any income that is taken by the governments in tax will ultimately be spent in the economy over time. While this may not occur in the same year, the money will be injected back into the economy in the form of Government expenditure. This includes expenditure on infrastructure items such as roads, rail and ports, as well as expenditure on health and education.

In the case of **imports** and **exports**, any money leaving the Australian economy in the form of spending on foreign goods and services (i.e. imports) will be balanced to some extent by the money entering the Australian economy in the form of foreign spending on Australian goods and services (i.e. exports).

These leakages and injections can be represented in the more complete 5 sector circular flow model of income that is shown below in Figure 6.2. It builds on the introductory three sector model introduced in Chapter 1 by the addition of two more sectors: the Financial sector and the External sector.

Figure 6.2
A 5 sector circular flow model of income



This model of the economy includes the five key sectors of the economy that underpin economic activity. **Flow 1** and **Flow 2** once again depict the provision of resources from the household sector to the business sector and the return of income from the business sector to the household sector. **Flow 3** is somewhat broken up, with part of the income being spent immediately on the purchase of goods and services by the household sector (i.e. Consumption) and the remainder of it leaking from the model in those ways highlighted earlier (taxes, savings and imports) before finding its way back in the form of injections (investment, government spending and exports).

- The **Financial sector** is an important intermediary, with institutions (such as banks) collecting savings from the household sector and lending this to those economic agents (e.g. businesses) keen to borrow in order to spend money on investment projects (building factories or purchasing capital equipment), with this 'Investment' forming part of **Flow 3**.
- The **Government sector** is responsible for collecting taxes and then spending those taxes in the form of Government spending, which also forms part of **Flow 3**.
- The **External sector** simply represents that part of the economy involved in international trade, with net exports (exports minus imports) contributing to **Flow 3**

Importantly, **Flow 3** represents the aggregate demand for Australian made goods and services which is naturally linked to **Flow 4**, which represents the total production of goods and services in Australia, most commonly measured by real gross domestic product (GDP).

Aggregate demand for goods and services

Aggregate demand (AD) for goods and services in Australia's economy represents the total expenditure on the goods and services produced in the economy and, over time, will equal production. AD is typically represented by the following equation:

$$AD = C + I + G + X - M$$

Where **C = Consumption expenditure** or **Consumption demand** which is defined as the total value of all expenditures on individual and collective consumption by resident households and non-profit institutions serving households. It includes spending such as on consumer durables (e.g. cars and furniture), semi-durables (e.g. clothes), single-use goods (e.g. food) and services (e.g. hairdressing). This is the largest component of AD, accounting for approximately 60% of the total.

I= Private Investment Expenditure which is defined as the purchase of new equipment and plant, buildings and vehicles. The purpose of Investment expenditure is to increase the ability of firms to produce goods and services. It also includes stock purchased by firms and new housing by households.

G = Government Expenditure which includes all demand for goods and services by Federal, State and Local Governments.

X-M = Net Exports (Exports minus Imports) because exports are Australian-made goods and services that have been purchased by overseas residents, and imports are foreign-made goods and services that are purchased by Australian residents. Imports are subtracted from the AD equation because they are already counted in each of the other sections. For example, when a new aeroplane is purchased by Qantas, it will be recorded in the Investment section of AD. However, given that AD represents the value of spending that has occurred on Australian made goods and services, the cost of importing the plane will need to be deducted because it relates to production that occurred overseas. To include imports in the calculation of AD would overestimate Australian production levels and suggest that economic activity is larger than it really is!

The use of the circular flow model presented in Figure 6.2 is illustrative because it helps us to gain a better understanding of the influences affecting AD and economic activity. This is because any imbalance between each set of leakages and injections over a period of time will have implications for the rate of growth in AD and economic activity.

Savings and Investment

Any decision by economic agents to increase their rate of Savings (e.g. because householders have lost confidence in the economy) will tend to reduce the growth of AD and economic activity unless businesses are immediately willing to increase Investment spending by the same amount. While the lower **interest rates** in the economy (that result from higher household savings) should stimulate Investment, there is no guarantee that the change in Investment will be enough to offset the decline in Consumption. This is particularly the case if businesses are also experiencing low confidence levels. Hence, the higher level savings results in a net leakage from the model and negatively influences economic activity (in the short term). This is precisely what occurred in Australia during 2020 when the economy entered the first recession in almost 30 years. Savings increased significantly (contributed to by the large fiscal stimulus measures introduced by governments in Australia) and interest rates fell to the lowest level in history (contributed to by monetary policy stimulus). The ability for government bodies to manipulate injections relative to leakages via the use of budgetary and monetary policies was covered in Chapter 2 (see the role of government in economic stabilisation in Chapter 2). The reverse is also true during periods when the rate of savings in the economy is very low, which exerts upward pressure on interest rates and negatively impacts on Investment.

Government spending and Taxes

A decision by the Government sector to raise Taxes without any corresponding increase in Government spending (i.e. the government decides to increase the **budget surplus** or reduce the **budget deficit**) should act as a constraint on AD and economic activity because it contributes to a net leakage from the circular flow of income. In contrast, increasing Government spending relative to Taxes will reduce the budget surplus (or create a budget deficit) and stimulate AD and economic activity. Again, the recession of 2020 provides an example for how the value of injections changed relative to the value of leakages within the Government sector. The fall in real GDP resulted in Tax receipts falling and Government spending on things like welfare and income support

rising, which caused the Budget deficit to rise to very high levels. Since then a reversal has taken place, with the economic recovery resulting in higher Tax receipts relative to Government spending and smaller budget deficits.

Net exports

With respect to Net Exports, any factor or event that results in a decrease in the **international competitiveness** of Australian exporters and import competing producers (also known as the **tradables sector** of the economy) should also serve to constrain AD and real GDP. For example, if the prices of Australian goods and services rise (i.e. inflation) faster than those produced overseas, then Australians will tend to purchase a higher volume of the relatively cheaper imports (rather than local products) and foreigners will tend to purchase exports from Australian competitors (such as New Zealand). The reverse is also true in the event that Australia's international competitiveness improves relative to foreign producers, or if there are international events (or shocks) that increase the demand for Australia's exports (such as China's appetite for Australian minerals over recent decades).

Over any given period of time, if **leakages exceeds injections** we would expect the level of economic activity to fall. In contrast, if **injections are greater than leakages** over a given time period we would expect economic activity to rise. A useful analogy may be that of a bathtub. If we consider the level of the water in the bathtub to be the level of economic activity in the economy, we could think of the water entering the bath from the tap as analogous to the injections in the circular flow of income. We could also think of the water escaping from the bathtub through the plughole as analogous to the leakages in the circular flow of income. If the water is entering the bathtub from the tap at a faster rate than it is flowing out of the plughole, then the level of the water in the bath (i.e. the level of economic activity) will rise.

Application Exercise 6a

a) For each of the following transactions state the component(s) of AD that will be affected.

Transaction	Component(s) of AD affected
The purchase of a new house by a young migrant family	
Chinese citizens have a two week holiday in Australia	
The Government continues to roll out the National Broadband Network	
BHP purchases a new fleet of trucks from Mitsubishi in Japan	
Telstra hires an Indian communications company to provide services for their Call Centre	
Lou sells Fiona a second-hand copy of *Economics from the ground up*	
Oxfam purchase stationery from Officeworks	
David spends $5000 while travelling around China	
Lisa purchases a Japanese wide-screen TV from Harvey Norman Australia	
Mary spends her pension payment on groceries	

b) Referring to Figure 6.2, outline what is likely to happen to AD and the level of economic activity following:

- **A decrease in tax rates on personal income**
- **Growth in the competitiveness of Chinese producers**
- **A decision by the Government to reduce all welfare payments by 20%**
- **An ageing population affecting the size of the labour force**
- **A loss of confidence in the financial sector**
- **A rise in efficiency levels within Australia's export sector**
- **A fall in the household savings ratio**

Aggregate Supply of goods and services

Aggregate Supply (AS) is the total volume of goods and services that producers are able and prepared to supply to the market. It represents the ability of an economy to make available the goods and services to meet AD. A nation's Aggregate Supply is closely related to the **productive capacity** of the economy such that any improvement to the supply potential of the economy (i.e. Aggregate Supply) will boost productive capacity and enable economic activity to occur without creating other problems for the economy, such as excessive growth in the general price level (inflation).

This means that increases in AD will only lead to growth in the production of goods and services if the economy has sufficient productive capacity (or Aggregate Supply) to meet that demand. If, for example, Aggregate Supply levels

are limited or stretched because of excessive demands placed on our productive resources, then growth in AD cannot be fully satisfied and an increase in the general price level (i.e. **inflation**) will occur. Limited productive capacity will therefore restrain the rate of growth in economic activity and impact negatively on material living standards. This is why governments are keen to develop aggregate supply policies that boost the nation's productive capacity, as it will allow growth in AD and production to occur at a faster pace.

Measurement of economic growth

Economic growth in an economy is defined as the rate at which economic activity grows over time and is most commonly determined by changes in the real value of production from one year to the next. It needs to be 'real' in the sense that the value of production must have occurred due to 'more' goods and services having been produced (a larger volume) rather than the same volume of goods and services (or less) being produced, but at higher prices. In other words, growth in the real value of production means that we ignore any growth that has taken place purely as a consequence of rising prices (or inflation).

The value of production in Australia is estimated by the Australian Bureau of Statistics (ABS) by using sample surveys and other records. It is reported in a quarterly series called the national accounts (see www.abs.gov.au) using **Gross Domestic Product (GDP)** as the statistical measure of production. When GDP increases over time it means that there has been an increase in the 'final market value of goods and services produced over time'. However, some of the increase in the 'final market value' is likely to have occurred because of a rise in prices rather than a rise in the volume of goods and services produced. The ABS takes this into account to convert these 'nominal' (or dollar) figures into real figures by stripping out the influence that inflation has on the value of production,the figure they produce is real GDP. **Real GDP** is calculated using the '**chain volume measure of GDP**' and economic growth is measured by the change in real GDP over time.

Study tip

It is possible for the rate of economic growth to be negative or less than zero. This means that the economy is experiencing a downturn and the size of the economy is shrinking. The last time this occurred in Australia was in 2020 as the economy entered the COVID-19 induced recession - the first recession since 1991 and defined as negative economic growth for two or more quarters.

For example, the quarterly real GDP figure for the three months ending 30 March 2022 was $527.7 billion. This means that between the period from 1 January 2022 to 31 March 2022, the total value of goods and services produced in the Australian economy amounted to $527.7 billion. When compared to the quarterly figure one year earlier of $510.6 billion, it means that real GDP increased by $17.1 billion or 3.3%. This means that economic growth for the year ended 31 March 2022 was 3.3%. Total GDP for that year amounted to $2,071.6 billion (i.e. $2.07 trillion for the four quarters combined).

Real GDP can also be calculated by adding up the '**total value added**' in the economy. For example, assume that an economy only produces bread, and production over a given year involved the following stages:

- The farmer plants seeds into the fields that produce wheat which is then sold to the person who mills the wheat – the miller - for $100m.
- The miller processes the wheat into flour and sells the flour to the bakery for $200m.
- The bakery converts the flour into bread and sells the bread to consumers for a total of $300m.

Study tip

In this example, for ease of illustration, it is assumed that the farmer obtains the seeds at no cost.

It is tempting to think that real GDP in this economy amounts to $600m, which is arrived at by adding $100m, $200m and $300m. However, this approach would involve double counting some of the production that occurred at earlier stages of production process. For example, the $200m of sales achieved by the miller already includes $100m of production that was undertaken by the farmer. Similarly, the $300m of sales achieved by the bakery already includes $200m of production that was undertaken by the miller. To determine the **total value of production** occurring in this economy we need to add the value generated by each producer at each stage of production. This results in the following:

- Value added by farmer $100m ($100m - $0)
- Value added by miller $100m ($200m - $100m)
- Value added by farmer $100m ($300m - $200m)
- **Total production in the economy** **$300m**

This $300m is also the value of real GDP determined by using the earlier definition of 'the final market value of goods

and services produced'. The final market value in this context refers to the value of bread produced because bread is the 'final' good. We do not include the production of wheat or flour because, in this example, they are not **final goods** but rather **intermediate goods**. This means that they are not sold to the final consumer but instead sold to other producers as inputs that are converted into another product. To include these values in the measure of GDP would involve double counting, which would result in GDP providing an over-estimation of the true value of production and economic activity.

Application Exercise 6b: 'real' versus 'nominal' values

To illustrate the importance of taking inflation into account when determining economic growth, it is useful to use a simplistic (and unrealistic) example of a small economy producing only pens. Assume that in year 1 the economy produces 100 pens for $1 each. That's all! The AD in this economy would be equal to $100, which also means that **economic activity** or **production** in year 1 equates to $100. This has been calculated by multiplying the price of the product by the volume produced (i.e. $1 X 100 = $100). Assume that in year 2 the price of pens rises to $2 but the volume produced remains at 100 pens. Economic activity for year 2 will now be $200, calculated by multiplying the price of the product by the volume produced (i.e. $2 X 100 = $100).

In this example, the 'dollar' or 'nominal' value of AD and economic activity rises from $100 to $200. However, this would provide a misleading indicator of the change in economic activity over time. On the face of it, it suggests that the economy has doubled in size and that both consumers and producers are a lot better off in year 2 when compared to year 1. Upon close inspection, it should be clear that the dollar value of economic activity has only increased because of a rise in prices. There are no additional pens produced. There are no new jobs created. There is no net benefit for economic agents because the rise in income will be offset by a rise in prices. It is for this reason that figures used to measure economic growth are converted from nominal or dollar values to real values.

In this simple example, the best way to determine the 'real' value of production in year 2 is to compare year 2 quantities with year 1 prices. In other words, P1 (the price in year 1) x Q2 (the quantity in year 2) works to eliminate any price effect on the value of production. We end up with a production value in year 2 of $1 X 100 = $100, which highlights that the **real** value of production has not changed over the relevant period. (This is, in fact, how the ABS measures growth in GDP in Australia - by valuing the current year's output at last year's prices.)

Questions

1. **Describe how a production (or economic activity) figure of $100 was arrived at in year 1.**
2. **Describe how a production figure of $200 was arrived at in year 2 assuming that the price of pens rose from $1 to $2.**
3. **Discuss whether the economy is better off in year 2 following a rise in the price of pens to $2.**
4. **Explain why a focus on the 'dollar value' of economic activity is misleading.**
5. **Assume that the price of pens increased from $1 in year 1 to $1.50 in year 2 and that 200 pens were sold in year 2. Calculate both the 'nominal' value of production and the 'real' value of production in year 2.**

Application Exercise 6c: Determining the value of production

Assume that the only economic activity taking place over a given period was as follows: A writer uses her expertise to write a collection of poems that she sends via email to a publisher. She receives $10,000 in return. The publisher edits the poems, adds colourful illustrations, and produces an e-book which he sells to an online bookseller for $50,000. The bookseller uses her nation-wide presence to sell 10,000 copies of the e-book for $10 each, yielding total sales of $100,000.

Tasks

1. **Assuming that there were no other stages involved in the production of this e-book, calculate GDP using both the 'value added approach' and the 'final market value' approach.**
2. **Determine the following:**
   a) **The total value of production.**
   b) **The total value of income.**
   c) **The total value of expenditure.**
3. **Assume that it is one year later and the same process has occurred. All values are the same, except that the bookseller sells 10,000 e-books for $12 each.**
   a) **Determine the total value of production.**
   b) **Determine the total real value of production.**
   c) **Determine the rate of economic growth.**
4. **Identify if the economy is better off in the second year. Justify your conclusion.**
5. **Examine the implications for the economy's production levels over time if the bookseller continues to raise the price of the e-books.**

Review questions 6.1

1. Define what is meant by material living standards.
2. Identify the common measure of material living standards.
3. Explain how an increase in economic growth is likely to affect material living standards.
4.
5. Distinguish material from non-material living standards.
6. List four separate 'non-material' factors that will impact on our quality of life.
7. Define economic activity.
8. Outline the general relationship between production, income and expenditure using a simple circular flow diagram.
9. Explain what is meant by 'leakages' from economic activity.
10. Explain what is meant by 'injections' to economic activity.
11. Describe the relationship between injections and leakages. Use a 5-sector circular flow diagram to illustrate.
12. Explain how economic activity is likely to respond over a given time period if leakages are greater than injections.
13. Explain how economic activity is likely to respond over a given time period if leakages are less than injections.
14. Define aggregate demand (AD) and its components.
15. Explain why imports are deducted from AD.
16. Define aggregate supply and economic growth.
17. Explain what could happen in the economy if aggregate supply cannot keep pace with AD.
18. Distinguish nominal GDP from real GDP and explain how the actual volume of goods and services produced can fall despite an increase in nominal GDP.
19. Distinguish final goods from intermediate goods, giving an example of each.
20. Discuss whether or not it is possible for economic growth to be negative.
21. Define the term 'recession'.
22. Describe how GDP can be calculated using the 'value added' approach.
23. Describe how the recession of 2020 impacted on the relationship between injections and leakages in the economy.
24. Explain how a rise in the demand for Australian minerals from China influences economic activity. Refer to leakages and injections to illustrate.

6.2 Benefits and costs of economic growth

Economic growth is pursued by all nations because it increases our access to goods and services that mostly improve our standards of living. However, the overall or net benefits that are gained from pursuing economic growth will depend on both material and non-material factors that determine our overall living standards. These **material living standards** will largely derive from the employment and incomes that economic growth creates, as well as the general level of economic development that takes place in society. **Non-material living standards** will, in contrast, depend on a whole host of factors that are not directly related to our incomes and ability to purchase goods and services.

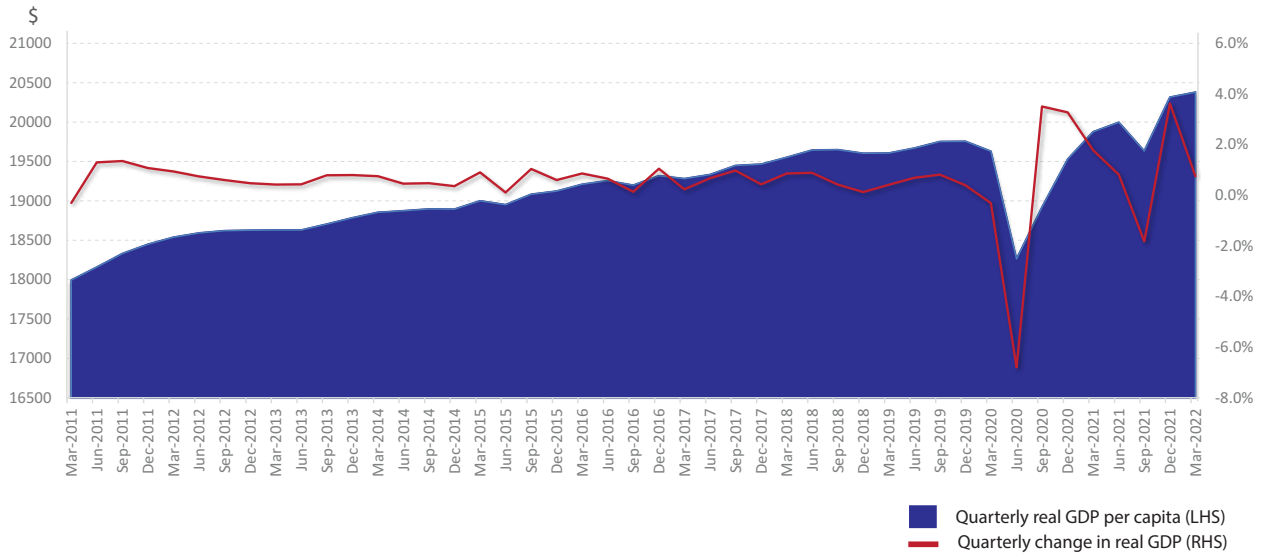
Economic growth and material living standards

Australian governments pursue strong rates of economic growth because higher values of production, income and expenditure help to raise material living standards, on average, for Australian households. As we saw earlier in relation to the circular flow model of income (Figure 6.2), the growth in the production of goods and services ultimately leads to an increase in the demand for resources, including labour, which leads to greater **employment** (and lower **unemployment**), which in turn helps to generate incomes for Australian households. This enables households to purchase more goods and services, which increases their economic or material prosperity. This is referred to as an increase in material living standards, and is commonly measured by increases in **real GDP per capita** (per person).

To illustrate, if an economy had only 100 people and a real GDP figure of $1,000,000 in year 1, its real GDP per capita would be $10,000 per person ($1,000,000/100). Given that production values ultimately equate to income values, this means that each person 'on average' receives $10,000 in income, enabling them to purchase $10,000 worth of goods and services. If we assume that in year 2, real GDP increased to $1,100,000 (i.e. economic growth of 10%) and the size of the population remained unchanged, then the average person would be 10% better off because they will have an additional $1,000 to spend on goods and services (as real GDP per person rises from $10,000 to $11,000). Contrast this with the situation that would arise if the population size increased and the rate of economic growth remained low. For example, assume that in year 3, real GDP increased by a low 1%, from $1,100,000 to $1,111,000 but the population size increased by 10% to 110. Despite economic growth occurring, material living standards have fallen as measured by real GDP per capita from $11,000 to $10,100 ($1,111,000/110).

The movement in Australia's real GDP per capita can be seen in Chart 6.1 below.

Chart 6.1
Economic growth and material living standards



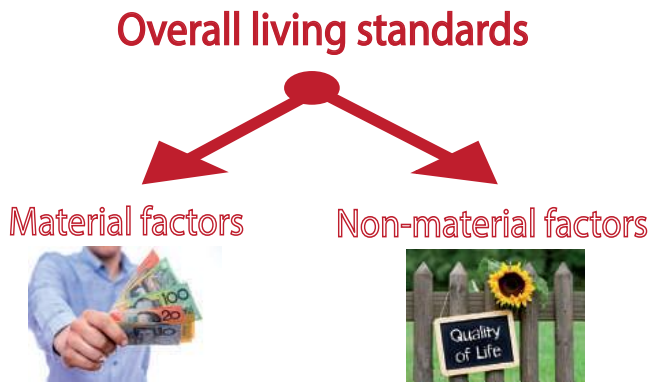
It highlights the generally positive correlation between economic growth and material living standards. When economic growth remained positive, it was generally associated with an increase in material living standards as measured by the value of real GDP per capita. This was evident in the period leading up to 2020, with the rate of economic growth averaging 0.6% per quarter and real GDP per capita rising from $17,994 for the March quarter of 2011 to $19,757 for the December quarter of 2019. However, there were periods during this time where real GDP per capita actually fell, despite the continuing economic growth – such as during the June quarter of 2015 and the December quarter of 2018. This reflects the fact that population growth over these times exceeded the rate of economic growth. [Complete Application exercise 6d for a further illustration of the relationship between population size and material living standards.]

The arrival of COVID-19 during early 2020 triggered the economic downturn (and recession), as highlighted by the fall in the quarterly rate of economic growth for the March and June quarters of 2020 (-0.3% and -6.8% respectively), as well as the September quarter of 2011 (-1.8%). This resulted in material living standards falling over this period, despite the absence of population growth (due largely to closed borders), as evidenced by real GDP per capita falling from $19,757 (Dec Qtr 2019) to $18,261 June Qtr 2020) and again from $19,997 to $19,633 during the September quarter of 2021.

Economic growth and non-material living standards

As was discussed earlier, there is more to our living standards than the ability to purchase goods and services. These influences are often referred to as 'non-material' or 'quality of life' factors that impact on our overall living standards and include those factors listed at the start of this chapter, including:

- Access to clean air, water and other natural resources
- Access to health and education services
- Congestion or pollution levels
- Incidence of crime
- Job satisfaction levels
- Leisure time and/or stress levels
- Life expectancy and freedom of expression
- Gender equality
- Income and wealth inequality
- General happiness levels
- Quality of goods and services available



In addition to boosting material living standards, economic growth will typically create additional employment, which helps to improve a number of '**quality of life**' factors either directly or indirectly. This includes the (mental) health benefits of being employed and not being forced to rely on welfare support, in addition to the other non-financial benefits associated with employment, such as improved self-esteem and being a member of a team. However, it is also true that economic growth might have a negative influence on quality of life factors, such as heightened stress, resource depletion and/or greater levels of pollution. [This is explored in Chapter 9.]

Application Exercise 6d Economic growth and material living standards

The table below refers to a hypothetical economy that starts with only 1000 people and real GDP of $10m. In the second year, the economy experiences no growth in the population but achieves a 10% rate of economic growth. This caused real GDP per capita (or income per person) to rise by 10%, from $10,000 to $11,000. In years 3 to 6, the economy experiences both economic growth and population growth, but the outcome for real GDP per capita will be mixed.

Yr	Population	Real GDP	Economic growth	Population growth	Real GDP per capita
1	1000	$10,000,000			$10,000
2	1000	$11,000,000	10%	0%	$11,000
3	1100	$11,000,000			
4	1200	$11,550,000			
5	1300	$12,705,000			
6	1400	$14,610,750			

Questions/tasks

1. **Complete the table above by calculating the rate of economic growth, population growth and real GDP per capita for years 3-6.**
2. **Identify those years where there was a fall in material living standards.**
3. **Outline what happens to material living standards when the rate of population growth exceeds economic growth.**
4. **Outline what happens to material living standards when the rate of economic growth exceeds population growth.**
5. **Provide two reasons to support the claim that a rise in real GDP per head does not necessarily mean that the nation's overall living standards have improved.**

Economic growth and economic development

Economic development refers to improvements in the economic well-being of a nation, including material and non-material factors such as incomes and wealth, and access to infrastructure, health, education and social advancement**,** including improvements in personal liberty and human rights. It also includes factors such as improvements to working conditions, longer life expectancy and reductions in poverty more generally.

Economic growth is considered a key factor in helping nations to achieve an acceleration in economic development. With stronger growth in production and incomes, governments are better able to implement policies that further develop the economy and help to boost living standards. This is because stronger rates of economic growth result in more government revenue (e.g. in the form of tax receipts) which can be used to invest in projects that contribute to the 'well being of the country'. This might include greater spending on infrastructure projects (e.g. new health and education facilities or the creation/upgrade of new public/national parks), more resources put into the elimination of absolute poverty or increased funding for programs that help to improve working conditions and/or protect human rights (e.g. the development of laws to eliminate discrimination and/or promote equal opportunity).

The potential costs of economic growth

The benefits of economic growth will always need to be weighed up against the potential costs that may be associated with (excessive) rates of economic growth. This is why the government pursues a strong and 'sustainable' rate of growth, one that is strong enough to create jobs and incomes, but not so strong that it leads to excessive inflation and/or environmental or social problems for the nation. While higher rates of productivity growth will allow economic growth to be higher before it becomes excessive, it is generally accepted that a rate of growth of approximately 3.5% is sustainable. Rates of growth higher than 3.5% for prolonged periods will tend to be excessive, causing the following types of problems for Australia.

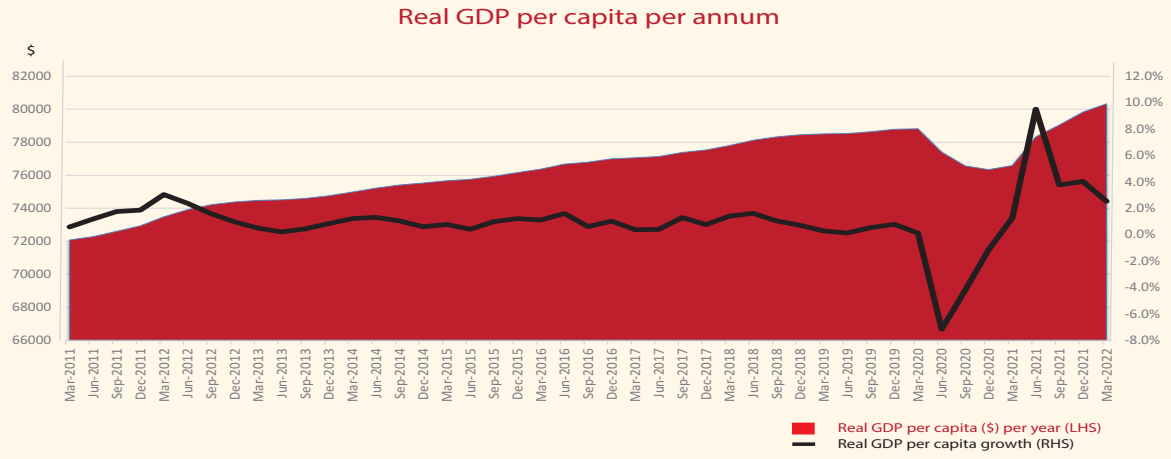
- Excessive rates of growth that are allowed to persist unchecked by government stabilisation policies will tend to contribute to **boom and bust cycles**. These cycles are considered in the next section (Section 6.3 The business cycle and economic indicators), but, in short, excessive growth leads to asset price bubbles (e.g. excessive price of property and shares) which eventually lead to market corrections (i.e. the bubbles burst) that create panic, instability and economic dowturns (or recession). It is the potential costs that will be faced by those becoming unemployed (or underemployed), as well as others who experience lower incomes or wealth, that motivate the government to use its macroeconomic stabilisation policies to prevent booms and busts. [Also refer to Section 2.7 of Chapter 2.]

- Excessive rates of growth are also likely to contribute to **congestion** and **pollution** or further **depletion of natural/non-renewable resources** over time. Bottlenecks and congestion will become common place on roads, highways and ports, leading to longer queues, higher costs and decreases in efficiency. In fact, there is likely to be excessive strain on a range of productive and social infrastructure, including telecommunications networks, parkland, shopping centres, energy grids, etc. which negatively impact on our quality of life. In relation to pollution and environmental problems more generally, excessive growth is clearly related to climate change given that greater production of goods and services is intrinsically linked to the burning of fossil fuels and excessive CO2 emissions. Similarly, excessive economic growth will only accelerate depletion of non-renewable resources as well contribute to extinction of native species. The relationship between excessive growth and environmental sustainability is covered in detail in Chapter 9.

- To the extent that excessive economic growth is related to excessive material consumption it can lead to what some economists have referred to as affluenza. **Affluenza** refers to the idea that the addictive pursuit of more and more goods and services is damaging to the mental health of the individual, as their desires cannot be satisfied. This is sometimes referred to as the 'hedonic treadmill' because the satisfaction from the consumption of goods and services is fleeting and the consumer seeks satisfaction from external sources rather than through intrinsic (internal) factors such as achievement or a sense of purpose.
- Further, while economic growth is indeed associated with material benefits in terms of more employment and incomes overall, there is a possibility that excessive growth can be associated with **widening inequality**. This is particularly the case if the growth is not matched by an effective government tax and transfer system that seeks to achieve a spreading of the benefits throughout the community. For example, if economic growth accelerates on the back of a booming IT or mining sector, then it is natural in a capitalist economy like Australia's for huge profits and windfalls to flow to entrepreneurs and shareholders in those sectors, which leads to heightened inequality, widening the gap between owners of capital and labour. This is why it is important for the government to ensure that the tax and transfer system has integrity (e.g. the ability for tax evasion is minimised) and is equitable (e.g. the personal income tax is progressive enough to lessen inequality without overly penalising hard work and risk taking).

Application Exercise 6e

Refer to the chart below that contains data for Australia, and answer the questions that follow:



Questions/tasks

1. **Describe the movement in the 'value' of real GDP per capita since March 2011 and discuss the implications for material living standards.**
2. **Provide one possible explanations for the relatively sharp decrease in real GDP per capita over 2020 and discuss the implications for material living standards.**
3. **Explain why the black line fell and the red area continued to increase over 2012-13 and again over 2021-22. Discuss the implications for material living standards.**

Limitations associated with using real GDP per capita to measure of living standards

While real GDP (per capita) attempts to provide an indicator of the level of production or income (per person) that takes place in our economy, it suffers from a number of shortcomings that ensure it will never provide a totally accurate representation of either national production or income levels that have occurred over time. In this respect, real GDP per capita is unable to provide a totally accurate measure of changes to material living standards that have occurred over time. The shortcomings of real GDP per capita as a measure of material living standards include the following:

- Real GDP (which is used as the basis for calculating GDP per capita) is inaccurate in the sense that it excludes some **non-marketed goods and services** where it is too difficult to get accurate values, such as home-based production (including home maintenance, services provided inside the home, such as cooking and cleaning and the unpaid care of children, and the production of backyard vegetables), black market goods or many charitable activities.
- Real GDP doesn't accurately measure changes in the **quality of goods and services** from one quarter to the next.
- When calculating real GDP, some non-marketed goods and services have a **value imputed** (estimated) for them, such as farm produce consumed on the farm, the rental value of owner-occupied housing and most importantly government services provided without charge. The imputed values might not accurately reflect true 'market values.'
- There may be inaccuracies when converting nominal GDP to real GDP using the chain volume measure. That is, the index used to remove the **effects of inflation** (which comprises a wide number of producer and consumer goods and services) is unlikely to be 100 per cent accurate when accounting for inflation.
- The real GDP figures are largely based on **estimates** which, by their nature, will rarely be 100% accurate.
- GDP fails to accurately capture changes in **purchasing power of incomes** as it is designed to be a measure of production of goods and services produced in Australia, rather than the income earned by Australians. There will often be differences between the two due to factors such as changes in the prices received for our exports and the net incomes earned overseas.

In addition to the factors above that make (real) GDP and therefore, by implication, real GDP per capita, an unreliable indicator of production or income, the indicator fails to capture changes in all of the **non-material factors** that influence living standards. It is precisely because of the numerous non-material influences on our welfare (such as those factors mentioned earlier, including job satisfaction levels, stress levels, crime, life expectancy, etc.) that real GDP per capita is an inadequate measure of Australia's overall living standards. This includes the fact that:

- Real GDP fails to distinguish between monetary transactions that actually improve our welfare (such as money spent on good food) and those which actually detract from our welfare (such as money spent on tobacco).
- Real GDP figures do not take into account the value associated with the **depletion of the nation's stock of natural capital** (or in simple terms, the depletion of our natural resources) or the costs associated with other negative externalities (such as pollution more generally).
- Real GDP figures do not take into account the value of **'leisure time'** that may be sacrificed (or gained) when there are increases (or decreases) in GDP. For example, increases in real GDP (or real GDP per capita) may suggest that living standards have improved. However, if this has occurred as a consequence of people being 'pressured' to work much longer hours (on average), then living standards may deteriorate.

Alternative economic indicators of living standards

GIven the obvious inadequacies of real GDP per capita as a measure of living standards, governments are increasingly supporting the publication of various statistics or measures that seek to adopt a broader approach. This includes publications such as *Measures of Australia's Progress (MAP),* the *Genuine Progress Indicator (GPI)* and the internationally renowned *Human Development Index (HDI)* produced by the World Bank.

The Genuine Progress Indicator

The **Genuine Progress Indicator (GPI)** is an indicator of national well being that seeks to overcome the difficulties associated with the use of GDP (and real GDP per capita) as a measure of overall living standards for a nation. Like GDP, the GPI starts with a focus on expenditure on goods and services to provide an idea about how our material living

standards are likely to have changed over time. However, it then takes into account a host of other factors not taken into account by GDP estimates. These include things like the social costs associated with unemployment, crime, problem gambling, excessive work, natural resource depletion and pollution. To illustrate how GPI statistics are likely to be different to GDP statistics, we will use the example of problem gambling, which has debilitating impacts on families and society more generally. For simplicity, let's assume that problem gambling amounted to a hypothetical $500m in 2023. This amount would be included as part of real GDP, and therefore living standards, as measured by real GDP per capita, would be inflated by this amount. However, the $500m would be subtracted in the GPI because it actually detracts from national welfare, despite it adding to the production effort. Therefore, the value of GPI would be lower than the value of GDP.

Measures of Australia's Progress

The ABS once published the **Measures of Australia's Progress (MAP)** with the specific purpose of finding an answer to the question: 'Has life in Australia been getting better?' While the ABS made it clear that it was too difficult to arrive at a definitive answer, the publication of a number of indicators was designed to provide some picture of Australia's progress over time. The ABS formulated four key 'domains' that were used to summarise the overall changes in our nation's 'wealth' over time. These were:

- Society
- Economy
- Environment
- Governance

Within each of these domains, there were a number of 'dimensions' that served to provide an indication of the changes that might be taking place in the nation's 'progress' over time. For example, within the 'society' domain, the dimensions included changes that may have taken place in our health, work situations or exposure to crime. Within the 'economy' domain, national income and productivity were important, and within the 'environment' domain, dimensions such as changes in biodiversity and levels of waste were relevant. Within the 'governance' domain, dimensions such as how much Australians trust our political processes and feel they have an opportunity to participate and have a say in decisions that affect their lives are important. While the MAP has been discontinued due to funding constraints within the Australian Bureau of Statistics, there is a possibility that it could be reinstated as an alternative measure of living standards some time in the future.

The Human Development Index

The **Human Development Index (HDI)** was created as an alternative means of measuring economic development around the world, and is now a commonly accepted measure by most countries. Its developers sought to shift the focus from national income accounting (i.e. GDP) to people-centred policies and provides a statistic that is used to compare the health or well being of countries around the world. The HDI is a *composite* statistic, which measures performance in three key dimensions of development – economics, health and longevity, and education. The structure of the HDI is outlined in the table below:

The structure of the HDI		
Dimensions	What it measures	How it's measured
Living standards	A decent standard of living	Gross National Income (GNI) per capita – which is similar to GDP, but adds on income that flows into their home country from people working or owning property abroad
Health	A long and healthy life	Life expectancy at birth – how many years a person is expected to live on average, at the time of their birth
Education	Access to education	Mean (average) years of schooling + Expected years of schooling (how long students are expected to stay at school)

Once the data is collected, the report writers compile a statistic for most countries in the world. For ease of comparison, the average value of achievements in the three dimensions are aggregated to create a composite figure, which is then put on a scale from 0 to 1, where the greater the number is, the better the level of human development in that country. The number 1.00 is the highest possible HDI and 0.00 the lowest. Interestingly, the latest HDI figures reveal that Australia is fifth with 0.951, behind Switzerland (0.962), Norway (0.961), and Iceland (0.959), but well ahead of developing nations like Mali (0.428) and Chad (0.394).

Application Exercise 6f: 'Doughnut economics'

Read the following edited article written by Warwick Smith and answer the questions that follow:

Before the recession we were on a collision course with environmental disaster. The recovery provides a rare opportunity to do things differently; to rebuild a better economy that can support living standards without irretrievably damaging the environment. The closer we get to irreversible climate change, the harder that will become.

Doughnut economics, a concept principally developed by UK economist Kate Raworth, provides an intuitive way of thinking about it. The ideas outlined in her book, subtitled Seven Ways to Think Like a 21st-Century Economist, are increasingly being used around the world, including by a new collaboration Regen Melbourne, that's looking at ways to making Melbourne a better, more socially just and environmentally responsible city. The image to keep in mind is that of a doughnut, on the inside of which is economic and social freefall. We need a certain amount of economic and social/ political development to ensure everybody can live a good, healthy life with full social and political participation.

On the outside of the doughnut is an unsustainable impact on the environment. The sweet spot, the "safe and just space for humanity" is, of course, in the doughnut itself. Mmm… doughnuts. Conceptually it's pretty straightforward. Practically, it is challenging. Economics is traditionally defined as the study of the way societies allocate scarce resources. But in the modern world the reality is that, for rich countries such as Australia, there is no overall scarcity.

The challenge is to remain within the doughnut.

Such countries have homeless and hungry people, for sure. But they also have enough resources, homes and food to provide for them. That they don't is a question of distribution rather than scarcity. In terms of the diagram, we already use enough resources to ensure nobody need be left in the hole on the inside of the doughnut. The danger is that we use too many resources and move beyond the outer edge of the doughnut into climate and ecological breakdown.

[Avoiding this] …will be difficult for precisely the same reasons that people remain poor amid extraordinary wealth. One is the capacity of deep-pocketed interests to influence regulators and governments to maximise profits. The other is the extent to which neoliberal economic thinking permeates social and political structures. The modern neoliberal thinking tells us the best outcomes are achieved when markets are "free" without government "interference". Government attempts to tax, fine or charge for environmental damage are portrayed as interference, rather than protecting the environment.

This is easy because each individual hectare of vegetation that's cleared doesn't, by itself, do much damage to the environment, just as each tonne of carbon dioxide that's released doesn't do much damage to the climate. It's possible to introduce a carbon price or a carbon tax, but its easy to lobby against. The pandemic has expanded what's possible. The pandemic has shown us that it's possible to overcome that fear. Environmental campaigner George Monbiot points out that for 10 years the number of people living - and dying - on Britain's streets had climbed year by year. There wasn't enough money to house them. Then suddenly when the pandemic hit, and they were seen as potential [COVID-19] carriers, the money could be found. He says for decades government and industry had claimed that people would never give up international holidays and business flights. When humanity's future was seen to be on the line, they did. It was possible to embrace shift to "private sufficiency and public luxury". This is a challenge not only to economics but also to individual economists. For better or worse, our discipline has a lot of power in the modern world and our views carry disproportionate weight. We need the best of our economic minds helping us to build frameworks that will keep us in the doughnut. The future of our species depends on it.

Source: https://www.abc.net.au/news/2020-12-31/doughnut-economics-rebuild-economy-protect-environment/13007158

Questions

1. **Explain what it means if our resources are used in a way that we reside inside the doughnut.**
2. **Explain what it means if our resources are used in a way that we reside outside the doughnut.**
3. **Explain how growth in real GDP might help us to achieve 'the safe and just space for humanity' (i.e. Help us to operate on the doughnut).**
4. **Explain how growth in real GDP might cause us to overshoot (i.e. to operate on the outside of the doughnut).**
5. **Identify three or four indicators that might suggest that our resources are being misallocated.**
6. **Explain why it might be difficult to avoid moving to the outer edge of the doughnut 'into climate and ecological breakdown'.**
7. **Explain how the research around doughnut economics might further highlight the inadequacies of GDP as a measure of living standards**

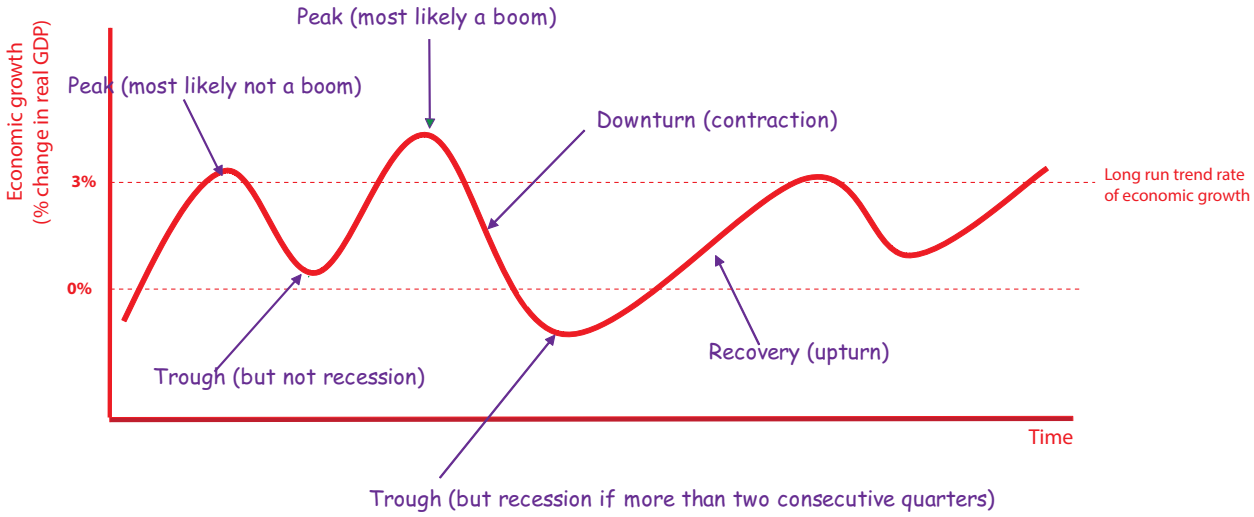
Review questions 6.2

1. Explain how an increase in economic growth may be associated with a fall in material living standards. In your answer make reference to population growth.
2. Distinguish material from non-material living standards.
3. List four separate 'non-material' factors that will impact on our quality of life.
4. Describe how economic growth is related to economic development.
5. Describe how the risk of boom and bust economic cycles is one potential cost of economic growth, and describe one way the government can limit this cost.
6. Explain why widening inequality and 'affluenza' are potential costs of economic growth.
7. Explain how a carbon tax (or carbon pricing more generally) might impact on Australian living standards. Distinguish the short term from long term impact.
8. Explain the difference between growth in real GDP and real GDP per capita.
9. Explain why real GDP per capita is considered to be an inadequate measure of production or income in Australia.
10. Explain how overall living standards may fall even when there is an increase in real GDP per capita.
11. Excluding reference to those factors identified in the previous question, explain why real GDP per capita is considered to be an inadequate measure of overall living standards.
12. Identify one alternative indicator of Australian living standards and provide one reason to suggest that it is superior to economic growth or real GDP per capita.

6.3 The business cycle and economic indicators

The business cycle is also referred to as the economic cycle and it summarises how the movement in economic activity over time (and therefore the rate of economic growth) fluctuates in a wave like pattern highlighted by periods of relatively high rates of economic growth (referred to as **peaks** or **booms**) followed by periods of negative or low rates of growth (referred to **troughs** or **recessions**). The business cycle is depicted in Figure 6.3 below:

Figure 6.3 Business cycle



Booms are associated with very high rates of growth in production, but not all peaks in the business cycle will be considered booms. Conversely, troughs are associated with very low rates of growth in production, but not all troughs will be considered a recession, which is technically defined as two successive quarters of negative economic growth. For example, over 2008-9, the Australian economy went through a trough but managed to avoid a recession. In contrast, the economy did experience a recession during the first two quarters of calendar 2020, with economic activity declining by 0.3% and 6.8% in the March and June quarters respectively.

A complete 'cycle' of the business cycle – from peak through trough and then back to a peak - can take a short or a reasonably long period of time. The time frame for each phase of the cycle will depend upon a range of factors, including the incidence of economic shocks caused by events such as COVID-19, natural disasters, and global conflict, as well as the operation of government policies. No two business cycles are identical and Australia enjoyed an extended period of positive economic growth between 1991 and 2019, before the COVID-19 induced **technical recession** and the ensuing economic damage it caused around the world..

Phases of the business cycle and economic indicators

The business cycle has four distinct phases/stages and each is characterised by changes in key economic indicators. Analysis can begin at any of the four phases/stages.

Stage 1: Peak /boom phase of the business cycle

During a peak or boom in the cycle, the economy will be experiencing strong rates of economic growth. Consumer and business confidence are high, which should encourage a greater propensity to spend, a reduction in savings and a willingness to take on new debt. The strong growth in demand will encourage firms to expand production, leading to an increase in the derived demand for labour. Referring back to the circular flow model in Figure 6.2, this will mean that leakages will be falling relative to injections, leading to (rapidly) rising economic activity. If the peak becomes a boom, then the rate of economic growth is likely to become excessive and unsustainable. This will tend to trigger inflationary pressures in the economy, especially if the economy is producing at (or close to) productive capacity. For example, a tight labour market will increase the likelihood of wage demands which accelerate inflationary pressures. The prices of assets, such as property and shares are likely to increase rapidly and there will tend to be greater purchases of imports as excessive domestic demand spills over into imports purchases. Generally, a boom is unsustainable and the economy will eventually move to the next phase of the business cycle.

Box 6.1
Leading, coincident and lagging indicators

The early warning signs that indicate the economy is at, or approaching, the peak/boom phase of the business cycle are those indicators of economic activity referred to as **leading indicators**. These are indicators that are forward-looking, able to provide some insight into future trends or changes in economic activity. For example, consumer confidence indexes, based on surveys of consumers, provide an indication of future spending patterns of consumers, such that any growth in the consumer confidence index should indicate that growth in Consumption, AD and economic activity is likely to occur in the near future. Other indexes derived from surveys looking into the state of mind of economic agents, such as the business sentiment index, are also examples of leading indicators, as are survey results derived from the spending intentions of economic agents, such as the hiring intentions of businesses. There are a host of other leading indicators that policymakers rely on when making predictions about the future state of the economy, including the volume of planning/building permits, loan approvals and job vacancy rates.

When the economy is in the peak/boom phase of the business cycle, there will be a number of indicators that reflect this period of growth in economic activity - these indicators are referred to as **coincident indicators** as they provide an indication of what is simultaneously occurring in the economy. It is the coincidence indicators that essentially determine where an economy is in terms of the business cycle and they typically include the following types of statistics: sales volumes, hours worked, business inventory levels, payroll figures, interest rates and the exchange rate.

However, there numerous other indicators that typically reflect past economic activity, referred to as **lagging indicators**. They are 'lagging' or 'backward looking' because of the time lags associated with the occurrence of the event and the collection of data associated with that event. Lagging indicators includes the actual rate of growth in GDP or GNE (Gross National Expenditure), levels of employment, rates of unemployment/underemployment, the rate of inflation, capacity utilisation and average weekly earnings. To the extent that statistical agencies, such as the ABS, manage to more speedily report these indicators over time (i.e. reduce the time lag between the occurrence of the event and the reporting of the event), then these indicators become more like coincident indicators rather than lagging indicators of economic activity. This explains why statistics such as rate of GDP growth, unemployment rates and inflation rates can in some circumstances be regarded as coincident indicators.

Stage 2: A contraction or downturn

The excessive rates of inflation and the existence of **capacity constraints** that characterise a boom (or peak) in the business cycle should mean that increasing the volume of production becomes more difficult. High inflation, higher interest rates and strong growth in asset prices result in overvalued assets (such as shares or property). This typically results in a market 'correction' that eventually leads to a fall in private consumption and investment as more households save and deleverage (reduce their debt burden). Referring back to the circular flow model in Figure 6.2, this will mean that injections will falling relative to leakages, leading to slower growth in economic activity. The demand for labour will start to fall, resources will become unemployed, consumer and business confidence deteriorates and inflation falls to lower levels.

Stage 3: Trough

The downturn will eventually reach a point where the level of economic activity reaches its minimum point in the cycle, and whether this trough turns into a **technical recession** depends on the length and severity of the economic downturn – with a recession only occurring if negative growth is experienced for two successive quarters. The low or negative rates of growth in the trough/recession mean that firms will need fewer factors of production and the rate of **unemployment** (or underemployment) would be high. A trough/recession will also be accompanied by a reduction in the rate of inflation (i.e. **disinflation**), or even falling prices (i.e.**deflation**), given that there will be spare capacity in a host of markets across the economy (e.g. excess supply in labour markets and the markets for goods and services more generally).

Australia entered a trough in the business cycle/recession during 2020, with negative growth recorded in both the March and June quarters. However, this trough/recession was not due to the normal workings of the business cycle. In other words, the 2020 trough was not triggered (or did not follow) a period of strong economic growth (or a boom). Instead, the dire state of the economy in 2020 was due to an '**economic shock**' in the form of a health pandemic, which triggered government responses (designed to reduce the spread of the coronavirus) that effectively put the economy into 'hibernation'.

Stage 4: Recovery

During the trough or recession, the relatively low inflation rate (or even deflation) combines with lower labour costs and lower interest rates to eventually spark an economic recovery. Consumption, Investment and Net Exports will all start to pick up over time, helping to promote growth in production, employment, income and expenditure. Referring back to the circular flow model in Figure 6.2, this will mean that injections will be rising relative to leakages, leading to increasing economic activity. Eventually the economy will recover and continue to grow until we reach the next peak in the business cycle and the process continues.

While an economy will, over time, tend to be self-correcting, particularly when prices (including the price of labour) are free to move in response to the demand/supply pressures in each market, the period of adjustment will often be quite protracted. The Government will therefore tend to use its macroeconomic demand management **stabilisation policies** to temporarily replace the lack of demand during a trough (or constrain growth during a peak). This was evident over recent years, with the government recognising that a failure to provide budgetary policy and monetary policy support to the economy would have resulted in a more severe and prolonged period of economic decline. [The government's recent use of its macroeconomic demand management policies was also covered in Chapter 2.]

Review questions 6.3

1. Distinguish the peak and trough phases of the business cycle.
2. Identify two economic indicators that might suggest that the economy is in the boom or peak phase of the business cycle.
3. Define the term recession in the context of an economy's business cycle.
4. Identify two economic indicators (distinct from those mentioned above) that might suggest that the economy is experiencing a recession.
5. Distinguish a leading indicator from a lagging indicator, providing an example of each type of indicator.
6. Explain how an economic recovery is distinct from an economic downturn, using a business cycle diagram to support your explanation.

6.4 Aggregate demand and supply factors influencing economic activity

Economic growth will fluctuate over time given that it is influenced by a host of factors. In Economics, we often categorise these factors as either **aggregate demand (AD)** or **aggregate supply (AS) factors** impacting on economic growth. AD factors are those that change economic growth by influencing one or more of the components of AD, whereas AS factors are those changing economic growth by influencing the supply decisions of producers and/or the productive capacity of the economy. In some cases, it is possible for a particular factor to impact on both AD and AS. We will now examine a select number of factors and highlight how they can affect economic growth in Australia.

Levels of consumer and business confidence

Consumer confidence refers to a consumers' perception of their economic well being in the future. Consumer confidence is negatively affected by economic conditions such as inflation, unemployment, or share/property price movements; geopolitical events (such as the rise in terrorism); climatic/geographical factors (such as global warming or natural disasters); or political events (such as a change in government or a new leader). When confidence is high, it contributes to upward pressure on Consumption expenditure, increasing AD and boosting economic growth. Similarly, **business confidence** refers to business perception of their future levels of sales and profitability. It is affected by the same types of factors that influence consumer confidence, and when it is high it contributes to growth in Investment, AD and economic growth.

Interest rates

Interest rates represent the **cost of borrowing** money or alternatively the return offered to those lending money. Those who save with financial institutions are considered to be 'lending' that money, and therefore they receive the reward of interest on their savings. Changes in interest rates will have both AD and AS impacts, with a fall in interest rates helping to stimulate AD as well as AS by improving supply conditions for businesses.

Lower interest rates will help to stimulate AD for a number of reasons, with the two main reasons listed below.

1) When interest rates fall, households and businesses are likely to save less (because the reward for savings is lower) and borrow more (because the cost of borrowing is lower). The combined effect of **lower savings** and **increased borrowing** is an increase the demand for goods and services. In simple terms, when savings fall, households and businesses will necessarily spend more of any given level of income. In addition, households are more likely to use credit cards for purchases and more likely to take out loans for the purchase of consumer durables such as a new television or car. Similarly, businesses are more likely to invest in newer plant and machinery as the lower cost of borrowing makes it cheaper to 'expand' or 'upgrade'.

2) The lower costs to finance existing loans for households and businesses (e.g. mortgages for the average household) causes them to experience a rise in **discretionary income** (i.e. income that is available to be spent after paying for essentials such as a mortgage and food for households), which helps to stimulate both Consumption and Investment.

Strong rates of economic growth experienced by Australia's trading partners

An increase in **economic growth overseas** (i.e. an increase in the growth rates experienced by our **trading partners** such as China and the USA) is likely to increase the demand for Australian exports of consumer items, capital items or raw materials needed to fuel the growth in their economies. This increases net exports (X - M), AD and economic growth in Australia. For example, the rapid growth of the Chinese economy of recent decades resulted in large increases in commodity exports (e.g. iron ore, natural gas, and coal). This increased export values, lifted AD and boosted economic growth in Australia. This was one of the major reasons to explain the 'relatively' strong rates of economic growth in Australia compared to most other advanced economies leading into 2020. For example, there is little doubt that were it not for continuing strong growth in China, and the accompanying boost to Australia's terms of trade (see next page), that Australia would have experienced a recession over 2008-9, a period when many advanced economies experienced more than six consecutive months of negative economic growth. More recently, the lower rates of world growth over the past couple of years has been a factor contributing to the low rates economic growth in Australia over the same period.

Disposable income

Disposable income represents the income received by income earners less the amount paid to the government in personal income tax. A fall in income taxes or a rise in incomes will increase disposable incomes and provide the household sector with an increased ability to purchase goods and services. This is likely to result in an increase in Consumption expenditure, a rise in AD and a corresponding boost to economic growth. However, the extent to which an increase in income, or reduction in taxes, will stimulate spending also depends on the prevailing rate of inflation (i.e. rate of growth in prices of goods and services). Only when growth in disposable incomes exceeds the rate of inflation can we safely say that household spending will be stimulated. For example, If the rate of growth in disposable income is below the rate of inflation, then the 'real' **purchasing power** of any given level of disposable income will fall, which should discourage spending. In this respect, **real disposable income** becomes the better indicator of purchasing power over time. The rate of growth in disposable incomes over 2020-21 (due to the generous stimulus support of the federal government during COVID-19), was a major contributing factor behind Australia's recession being less severe and protracted than otherwise.

The exchange rate

The **exchange rate** is the value of the Australian dollar (AUD) against another currency, such as the US dollar (USD), or a basket of currencies of our major trading partners (**Trade Weighted Index**). If the value of the AUD increases, the demand-side effects on economic activity are negative. There are a number of reasons for this, but in simple terms it results in a fall in the **international competitiveness** of Australian businesses that either export products or compete against imports (referred to as Australia's tradables sector). For example, a higher AUD will mean that it costs more for overseas purchasers to buy Australian exports and will be cheaper for Australians to purchase imports. This is because to buy an Australian product, foreigners will need to exchange more of their currency to receive the same amount of AUD as previously, making our exports more expensive. Similarly, Australians purchasing imports will not need to exchange as many AUD to purchase a given amount of foreign currency, making our imports cheaper. This will reduce Net Export demand (X-M) and AD, leading to a fall in the rate of economic growth.

On the supply side, a higher AUD will help to improve supply conditions for those Australian businesses relying on imported products in their production process. For example, firms relying on imported machinery from Germany will find that a higher AUD will reduce their costs of production. This helps to improve aggregate supply, which in turn creates downward pressure on prices (or inflation) and helps to stimulate AD because lower prices encourage greater Consumption (and Net Exports). Overall, a higher exchange rate will tend to reduce the rate of economic growth as a result of negative demand side effects. However, the decline in the rate of growth will be offset to some extent by the improved supply side effects stemming from a high exchange rate.

The lower value of Australia's exchange rate over the past couple of years has helped to stimulate net export demand and economic growth during a time when other components of AD (such as Consumption and Investment) were making relatively modest contributions to growth.

The terms of trade

The ABS calculates the **terms of trade (TOT)** by compiling an index of export prices and dividing this by an index of import prices. Often the TOT is simply denoted by the equation Px/Pm. For the TOT to increase, there must be a rise in the average prices received for Australian exports relative to the average price paid for our imports. A rise in the TOT is mostly beneficial for Australia because it means that exporters are receiving higher incomes from sales of exports (X), and/or Australians are paying less for imports (M). This means that the value for Net Exports (X-M) increases, causing AD and economic growth to increase. In addition, the boost in the TOT also helps to lift Consumption and Investment as a result of the large boost to Australian incomes (both profits and wages) that is received by those economic agents attached to those sectors enjoying a higher TOT, such as shareholders and workers. This further stimulates AD and contributes to relatively strong rates of economic growth.

To illustrate how a boost in the TOT helps to stimulate economic growth, it is useful to focus on the large increase in iron ore prices that occurred over recent years, which was a major factor behind the rise in the TOT at the time. Assume that an Australian mining company, such as Rio Tinto, extracted 100 tonnes of iron ore from the ground over a given time period and supplied this volume to the international market place at a price determined by the global iron ore market. At the end of 2018 the iron ore price was approximately USD63 per tonne. This means that Rio Tinto will have received USD6,300 for that 100 tonne of iron ore. The price of iron ore increased dramatically over the next few years to approximately USD230 per tonne by the middle of 2021. The same quantity of iron ore (i.e. 100 tonne) resulted in Rio

Tinto receiving USD23,000. If we assume that the exchange rate did not change over this time, it means that there was approximately a 300% increase in income earned by Rio Tinto. This additional income occurred simply because of the higher price received for iron ore - it occurred without an increase in production volumes. It ultimately filtered through to boost Consumption and Investment, and provided a large stimulus to economic growth during a period where a number of advanced economies were still experiencing extremely low or negative growth due to COVID-19. [In reality, Rio Tinto exported around 300 million tonnes of iron ore over 2021. Based on the price increase referred to above, this will have yielded an additional $500 billion in revenue!!]

Productivity

Productivity is defined as the total volume of production compared to the total inputs used to achieve that production level. Alternatively it can be defined as output over inputs (outputs/inputs) or the total output per unit of input. Productivity describes how efficiently our resources are being used to produce goods and services and the most common measure of productivity is **labour productivity**. This is calculated as total production divided by the number of hours worked.

A rise in *productivity* should increase economic growth because it means that any volume of output is able to be produced with fewer resources. It therefore reduces the average costs of production for businesses which helps to reduce prices (or contain price increases). Alternatively, higher productivity encourages businesses to increase supply, which exerts downward pressure on prices because of a build-up of stocks. The lower rate of growth in prices across the economy (i.e. lower rates of **inflation**) encourages growth in Consumption as households seek to take advantage of relatively cheaper goods. In addition, it encourages an increase in Net Exports as Australian producers become relatively more internationally competitive. Accordingly, AD is likely to rise which stimulates economic growth.

Over recent years, Australia's labour productivity performance has been somewhat mixed, with growth in annual labour productivity rising from 0.1% in December 2018 to 3.4% by the middle of 2020, before experiencing periods of negative growth over 2020 and 2021. Negative rates of productivity growth inflate **unit labour costs** (i.e. the cost of labour per unit of output), for businesses and therefore have a negative (supply side) effect on economic growth.

Application Exercise 6g: Factors affecting growth

Refer to the table below and answer the questions that follow. For each question you are required to use statistics from the table to support your explanation.

Qtr/year	Economic growth (% change in real GDP per year)	Interest rates % (Std home loan rate)	Disposable income (annual change)	Exchange rate (AUD/USD)	Consumer confi-dence index	Terms of Trade index	Wolrd growth rate	Productivity growth (non-farm annual)
Jun-2019	1.6%	5.15	3.3%	0.70	100.7	101.9	2.6	-0.8%
Sep-2019	2.1%	4.94	5.7%	0.67	98.2	103.3	2.6	0.3%
Dec-2019	2.4%	4.80	4.2%	0.70	95.1	98.8	2.6	0.4%
Mar-2020	1.6%	4.52	5.0%	0.55	91.9	99.0	-3.1	2.0%
Jun-2020	-6.0%	4.52	8.1%	0.69	93.7	98.5	-3.1	4.8%
Sep-2020	-3.5%	4.52	8.2%	0.71	93.8	100.0	-3.1	2.5%
Dec-2020	-0.7%	4.52	5.9%	0.77	112.0	105.6	-3.1	1.7%
Mar-2021	1.5%	4.52	5.2%	0.76	111.8	113.8	6.1	1.1%
Jun-2021	9.8%	4.52	1.4%	0.75	107.2	121.6	6.1	-3.2%
Sep-2021	4.1%	4.52	3.1%	0.72	106.2	122.4	6.1	2.0%
Dec-2021	4.5%	4.52	5.0%	0.73	104.3	116.2	6.1	1.4%
Mar-2022	3.3%	4.52	4.7%	0.75	96.6	124.9	3.2	2.3%
Jun-2022	3.6%	5.27	6.3%	0.69	86.4	130.7	3.2(est)	1.6%

Questions

1. **Explain how the change in World growth rates of economic growth over 2020 is likely to have affected Australian rates of growth.**
2. **Discuss how the change in the standard variable home loan rate between 2019 and 2022 is likely to have impacted on AD and economic growth.**
3. **Discuss how the change in consumer confidence since September 2020 is likely to have impacted on AD and economic growth.**
4. **Explain how the change in productivity during the last half of 2020 is likely to have influenced the rate of economic growth.**
5. **Discuss how the change in the Terms of Trade since September 2020 is likely to have impacted on AD and economic growth.**
6. **Discuss why the change in the exchange rate since December 2020 resulted in negative Aggregate Supply-side effects for the economy and beneficial AD side effects.**

Review questions 6.4

1. Distinguish an AD factor affecting economic growth from an aggregate supply (AS) factor.
2. Define consumer confidence and business confidence.
3. Define interest rates.
4. Identify how a fall in interest rates is likely to impact on the rate of economic growth. Provide two reasons or explanations to support your response.
5. Explain how an increase in Chinese rates of economic growth is likely to impact on economic growth in Australia.
6. Explain why a 10% increase in Chinese economic growth will impact more favourably upon Australian rates of growth compared to a 10% increase in French rates of economic growth.
7. Define disposable income.
8. Outline two separate ways that disposable income may increase and outline how this might affect household spending and economic growth.
9. Explain why changes in 'real disposable income' might be a more effective predictor of changes in Consumption spending compared to 'disposable income'.
10. Define 'exchange rate' and 'tradables sector'.
11. Explain why a rise in Australia's exchange rate is likely to decrease the international competitiveness of Australia's tradables sector.
12. Explain how a fall in the exchange rate can have favourable demand side effects but negative supply side effects.
13. A higher exchange rate will help to reduce cost pressures for businesses and therefore be beneficial for Australia's economic growth. Discuss.
14. Define terms of trade and discuss two separate ways that the TOT can increase.
15. Explain why the mining companies are likely to be happier when the TOT increases.
16. Explain why a higher TOT will most likely lead to a rise in AD and economic growth.
17. Define productivity.
18. Distinguish between the terms productivity and production.
19. Distinguish between the terms productivity and labour productivity.
20. Explain why a rise in labour productivity is likely to increase the rate of economic growth.

6.5 Multiple choice review questions

1. Economic growth refers to changes in the total
- a) expenditure in the economy
- b) real value of all goods and services purchased in a country
- c) real value of all goods and services produced in a country
- d) prices of goods and services

2. Which of the following is not part of the circular flow of income in an economy?
- a) Production
- b) Unemployment
- c) Income
- d) Expenditure

3. Which of the following is not a leakage from the circular flow of income?
- a) Savings
- b) Investment
- c) Taxes
- d) Imports

4. **Assume that the only economic activity taking place in an economy were as follows: A farmer sells wild blackberries to a fruit shop for $2,000. The fruiterer then sells the blackberries to a shop keeper for $4,000 who then makes blackberry juice and sells to consumers for a total of $8,000. The total value of production in this economy is:**
- a) $14,000
- b) $8,000
- c) $6,000
- d) $28,000

5. Which of the following is not likely to increase aggregate demand for goods and services?
- a) An increase in exports
- b) An increase in government expenditure
- c) An increase in imports
- d) A decrease in savings

6. Which of the following is not an alternative to real GDP per capita as an indicator of Australian living standards?
a) Human Development Index
b) The Terms of Trade
c) Measures of Australia's Progress
d) The Genuine Progress Indicator

7. Which of the following factors is most likely to increase economic growth?
a) Higher exchange rate
b) Higher interest rates
c) Higher Terms of Trade
d) Higher import demand

8. Which of the following factors is most likely to decrease economic growth?
a) Higher interest rates
b) Higher productivity
c) Higher growth overseas
d) Higher business confidence

9. Which of the following is both a demand and supply factor influencing the level of economic growth?
a) productivity
b) the level of disposable income
c) consumer confidence
d) interest rates

10. Which statistic provides the best measure of material living standards?
a) Real GDP
b) Terms of Trade
c) Real GDP per capita
d) Population growth

11. Which of the following is the best definition of Australia's tradables sector?
a) Exporters and import-competing businesses
b) Exporters and importers
c) Export competing businesses and importers
d) Exporters but not importers

12. If economic growth increases, living standards may still fall if
a) Real GDP growth is negative
b) There is a decline in access to health and education services
c) There is a decline in congestion levels on roads
d) There is a decline in work-related stress levels

13. A leading indicator of economic activity is likely to be changes in the
a) consumer confidence index
b) the rate of growth in real GDP
c) unemployment rate
d) rate of inflation

14. During the boom phase of the business cycle, which of the following is not likely to exist?
a) A low rate of inflation
b) A high rate of growth in real GDP
c) A low rate of unemployment
d) High levels of consumer confidence

15. The boom phase of the business cycle typically ends and the economy enters a downturn because:
a) Interest rates climb to very high levels
b) Wages growth becomes excessive
c) Rising inflation erodes international competitiveness
d) All of the above

16. Household Consumption expenditure accounts for approximately:
a) 60% of GDP
b) 30% of GDP
c) 40% of GDP
d) 50% of GDP

17. A recession is technically defined as:
a) two successive quarters of declining growth in real GDP
b) two successive quarters of negative growth in real GDP
c) two successive quarters of declining growth in nominal GDP
d) two successive quarters of negative growth in nominal GDP

18. The economic development of a nation is likely to be impaired by
a) an increase in the quality of the nation's infrastructure (such as roads)
b) a rise in the quality of schools and universities
c) an increase in the rate of depletion of the nation's natural resources
d) an increase in life expectancy

19. Over any given period of time, the value of nominal GDP will be exactly the same as the value of real GDP if:
a) the rate of productivity growth is zero
b) the rate of inflation is less than 2%
c) the rate of population growth is zero
d) the rate of growth in prices is zero

20. Over any given period of time, material living standards should decline if
a) the government imposes laws that restrict freedom of movement and freedom of expression
b) the rate of economic growth is exceeded by the rate of population growth
c) the rate of inflation is lower than the rate of growth in nominal GDP
d) life expectancy increases

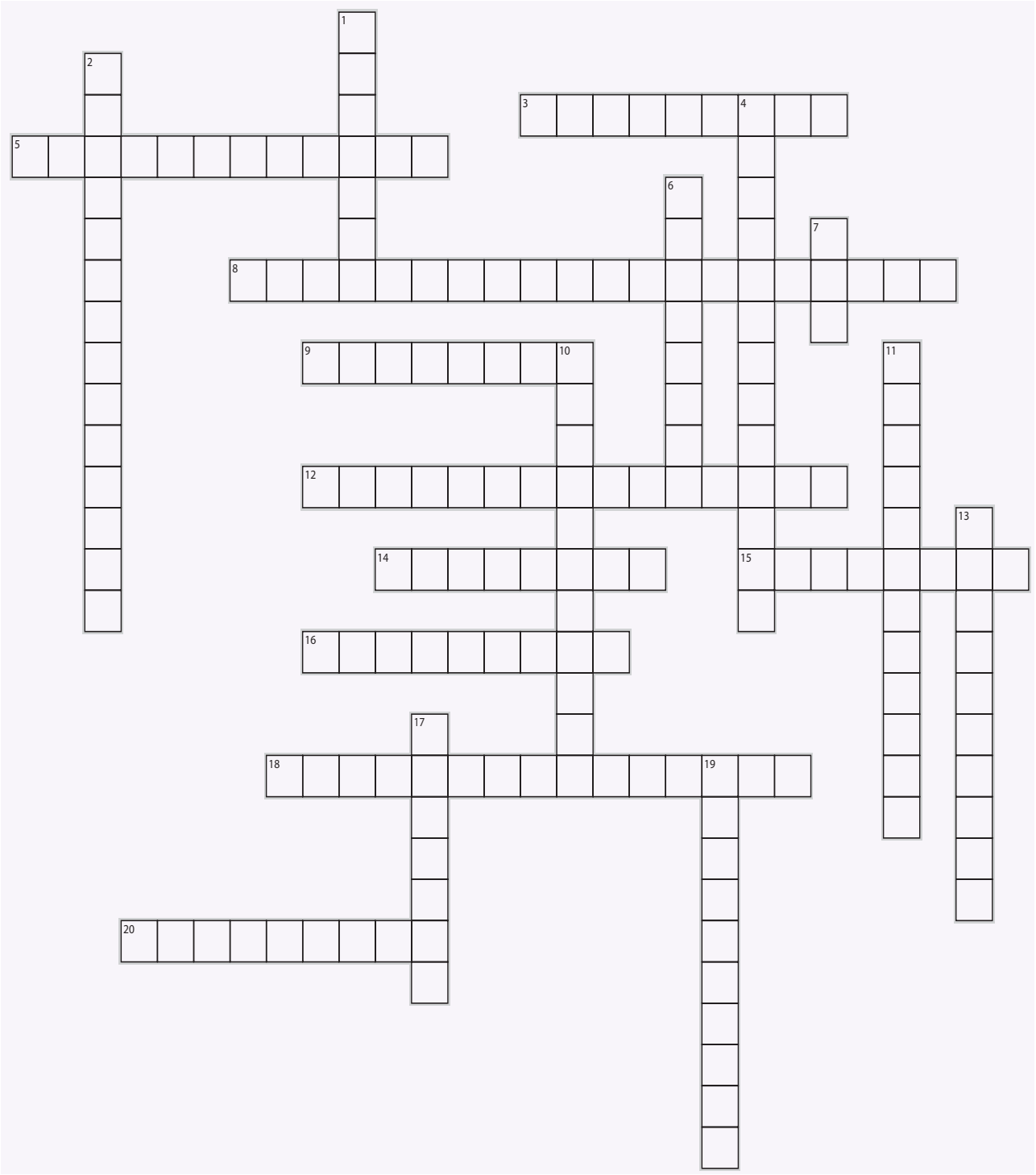
6.6 Chapter crossword puzzle

Across

3. Half a year of negative growth in real GDP
5. Output per unit of input or output over inputs
8. The final market value of goods and services produced over a given period of time (3 words)
9. Savings, tax and imports are examples of these
12. The total expenditure on the goods and services produced in the economy over a period of time (2 words)
14. GDP per capita is a reasonable measure of these living standards
15. Another word for business (cycle)
16. Banks are part of this sector of the economy
18. This typically equates to the nation's productive capacity (2 words)
20. A common example of a negative externality in production

Down

1. These will tend to rise during uncertain economic times which act as a leakage from the circular flow model of income
2. The rate at which real GDP or economic activity grows over time (2 words)
4. The cost of borrowing money or alternatively the return offered to those lending money (2 words)
6. This rate refers to the price of the currency on international markets
7. A commonly accepted global indicator of economic development for a nation (acronym)
10. This type of development refers to the development of a nation at a pace that does not erode the ability of future generations to enjoy the same quality of life
11. The average price of exports over the average price of imports (3 words)
13. This type of income is what remains after paying income tax
17. This type of indicator will provide an insight into future economic developments
19. If the growth in this variable increases faster than the rate of growth in real GDP then material living standards will typically fall



6.7 Chapter summary

1. Economic activity is defined as the production, income and expenditure that takes place across the whole economy.
2. Growth in economic activity (i.e. economic growth) is pursued by all nations because it increases our access to goods and services that mostly improve our material standards of living (most commonly measured by increases in real GDP per capita.)
3. There exists a wide range of factors that influence our well-being beyond our ability to purchase goods and services. These influences are often referred to as 'non-material' or 'quality of life' factors that impact on our overall living standards.
4. Overall living standards = Material living standards (real GDP per capita) + Non-Material living standards.
5. The numerous non-material influences on our welfare or well-being make economic growth and real GDP per capita inadequate measure of Australian living standards.
6. Over time, the total value of production, income and expenditure in an economy should be equal.
7. Leakages from economic activity include Savings, Tax and Imports.
8. Injections to economic activity include Investment, Government spending and Exports.
9. If leakages exceed injections over a given time period, we would expect economic activity to fall.
10. If injections are greater than leakages over a given time period, we would expect economic activity to rise.

11. Aggregate demand (AD) in Australia's economy represents the total expenditure on the goods and services produced in the economy over a period of time.
12. AD = C + I + G + X – M where C= Consumption expenditure, I = Investment expenditure, G= Government expenditure, X = Export expenditure and M = import expenditure.
13. Aggregate Supply is the total volume of goods and services that producers are prepared to supply to the market.
14. Economic growth in an economy is defined as the rate at which economic activity grows over time and is most commonly determined by changes in the real value of production from one year to the next.
15. The value of production in Australia is estimated by the Australian Bureau of Statistics (ABS) using Gross Domestic Product (GDP) as the statistical measure of production.
16. GDP is defined as the final market value of goods and services produced over a given period of time.
17. Real GDP is calculated using the 'chain volume measure of GDP' which strips out the impact of rising prices.
18. Economic growth is measured by the change in real GDP over time.
19. Real GDP can also be calculated by adding up the 'total value' added in the economy.
20. Economic growth is pursued by all nations because it increases our access to goods and services that mostly improve our standards of living.
21. Aggregate demand (AD) factors are those that change economic activity by influencing one or more of the components of AD. However, it is also true that economic growth might have a negative influence on quality of life factors, such as heightened stress, resource depletion and/or greater levels of pollution.
22. Economic development refers to improvements in the economic well-being of a nation.
23. Governments will take into account both material and non-material factors when developing policies over time.
24. While real GDP (per capita) attempts to provide an indicator of the level of production or income (per person) that takes place in our economy, it suffers from a number of shortcomings that ensure it will never provide a totally accurate representation of either national production or income levels that have occurred over time or our quality of life.
25. Given the obvious inadequacies of real GDP per capita as a measure of living standards, governments are increasingly supporting the publication of various statistics or measures that seek to adopt a broader approach. This includes publications such as Measures of Australia's Progress (MAP), the Genuine Progress Indicator (GPI) and the internationally renowned Human Development Index (HDI) produced by the World Bank.
26. The business cycle is also referred to as the economic cycle and it summarises how the movement in economic activity over time (and therefore the rate of economic growth) fluctuates in a wave like pattern highlighted by periods of relatively high rates of economic growth (referred to as peaks or booms) followed by periods of negative or low rates of growth (referred to troughs or recessions).
27. During a peak or boom in the cycle, the economy will be experiencing strong rates of economic growth, associated with low rates of unemployment and typically high rates of inflation. The reverse occurs when the economy is in the trough of the cycle.
28. A boom in the cycle will be followed by an economic downturn and a trough will be followed by an economic recovery.
29. AD factors are those that change economic growth by influencing one or more of the components of AD, whereas AS factors are those changing economic growth by influencing the supply decisions of producers and/or the productive capacity of the economy.
30. Consumer or business confidence refers to a consumers' (or business') perception of their economic well being in the future. When confidence is high, it contributes to upward pressure on AD, increasing economic growth.
31. Interest rates represent the cost of borrowing money or alternatively the return offered to those lending money. Changes in interest rates will have both AD and aggregate supply impacts, with a fall in interest rates helping to stimulate AD as well as improve supply conditions for businesses.
32. An increase in economic growth overseas is likely to increase the demand for Australian exports of consumer items, capital items or raw materials which increases AD and economic growth in Australia.
33. Disposable income represents the income received by income earners less the amount paid to the government in personal income tax. An increase in disposable income is likely to result in an increase in Consumption expenditure, a rise in AD and a corresponding boost to economic growth.
34. The exchange rate is the value of the Australian dollar (AUD) against another currency, such as the US dollar (USD). A higher exchange rate will tend to reduce the rate of economic growth as a result of negative AD-side effects. However, the decline in the rate of growth will be offset to some extent by the improved supply-side effects stemming from a high exchange rate.
35. The terms of trade (TOT) is an index of export prices divided by an index of import prices.
36. For the TOT to increase, there must be a rise in the average prices received for Australian exports relative to the average price paid for our imports. This is mostly beneficial for Australia because it means that exporters are receiving higher incomes from sales of exports, and/or Australians are paying less for imports.
37. Productivity is defined as the total volume of production compared to the total inputs used to achieve that production level. Also referred to as output per unit of input or output over inputs. A rise in productivity should increase economic growth because it means that any volume of output is able to be produced with few resources.
38. The most common measure of productivity used is labour productivity which measures the output per hour worked.

Chapter 7
The changing labour market

7.1 Australian labour markets

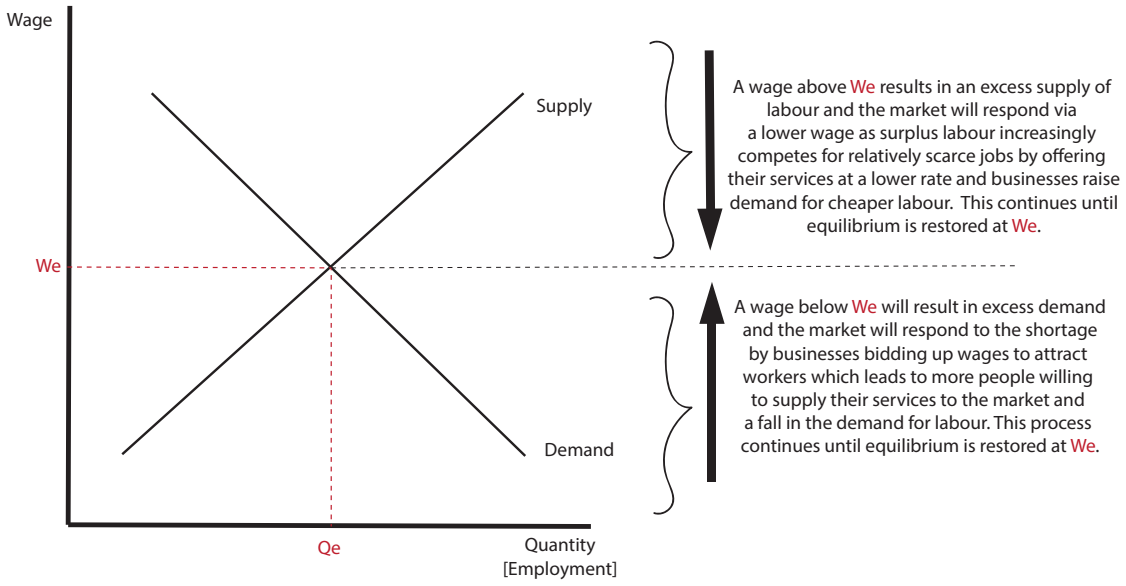
What is a labour market?

As we discussed in Chapter 4, a **labour market** is a market for labour services, where buyers and sellers of labour services come together in exchange and where the rate of exchange is the price of labour. The demand for labour comes from employers (e.g. businesses and governments) and the supply of labour comes from workers (or employees). The price of labour is typically referred to as the **wage** (or **salary**), such as the average wage of $1,329 per week ($69,108 per year) as recorded by the ABS at the end of 2021. However, the price of labour reflects more than the cash wages or salaries paid to workers. Employees are primarily concerned about the price of labour in terms of **remuneration**, which is defined as the total financial reward for working and includes the wage or salary plus any additional 'cash equivalent' benefits such as the use of a company car, subsidised housing, travel benefits, bonuses and commissions.

Using a **demand** and **supply** model to understand how the labour market works can be useful. Like markets generally, there will tend to be an inverse relationship between the price of labour and the demand for labour. As the price of labour rises, businesses will have more incentive to reduce the demand for labour - substituting out of labour and into capital. Similarly, as the price of labour falls, businesses will be more inclined to increase the demand for labour and perhaps delay any plans to substitute into capital. In relation to the supply of labour, when people offer or supply their labour services to employers, they are attracted by the highest wage or remuneration levels possible. This is logical, as a higher wage will enable individuals to purchase more goods and services and boost material standards of living. Accordingly, any increase in the wage will attract more people to offer their labour services to that particular market. In contrast, lower wages will raise the opportunity cost of working and make it more attractive not to work. This then explains why the supply curve in the labour market is upward sloping from left to right.

Like any market, labour markets will be in equilibrium when the price of labour (or the wage) is at such a level that the total demand for labour is exactly equal to the total quantity supplied. The standard labour market diagram is depicted below in Figure 7.1.

Figure 7.1



The nature of employment, unemployment, paid and unpaid work

In Australia, a person is only classified as **employed** if they are exchanging their labour for income, that is, they are being paid. An individual could work as little as one hour per week and still be counted as employed for that week. A person is only counted as **unemployed** if they have not worked for income for that week and have actively sought work and were available to start work. This means that a person could theoretically be working five hours a week and be counted as employed even though they may be seeking full-time work during the rest of the week.

In Australia, a person whose only work is unpaid work is not considered to be employed. The goods or services that they provide are also not counted as part of our GDP figures, which was discussed in Chapter 6. There is a large amount of unpaid work performed in Australia and this work falls into two broad categories:

- Work that is completed at home such as cooking, cleaning, ironing, gardening and maintenance. If the work is completed by the homeowner (or a friend who helps out for free) then this is not counted in our GDP figures and the value of the work is therefore neglected by our statisticians. Many people also grow their own produce which involves considerable effort and time, and is therefore seen as unpaid work. There are also a number of dedicated Australians who care for their loved ones who may be physically or mentally ill.
- Australia is a nation of people who have been increasingly willing to volunteer their time for organisations. The work provided may be skilled or unskilled and volunteers are not paid for their services, and nor are they paid for the goods they sometimes provide. Not-for-profit organisations rely heavily on the good will of their volunteers to be able to provide the help to those who need it the most. The value of this work is also neglected when the ABS calculates Australia's rate of economic growth.

The economic consequences of employment - why we work

At first, the answer to the question of why people work may seem obvious. Usually the first thing that comes into people's mind when they are asked this question is: to earn income. There are many who therefore see work as some sort of necessary evil, and in many ways economists are guilty of perpetuating this view of work. In fact, early economic views of work described it in terms of **disutility**. That is, the work itself reduced wellbeing and satisfaction.

For economists, work involves a transaction between parties: a person sells their labour resource in exchange for income. This income then enables them to purchase both needs and wants. Some economists believe, however, that we really don't need to work as hard as we do, or at least some of us don't. **Technological advances** and economic growth have meant that lifestyles that were achievable 30 years ago could be afforded today from working fewer hours. As a society, however, over time we continue to aspire to higher living standards, and therefore the need to work, and work long hours, has been maintained. [See Application Exercise 7i: Universal basic income].

The idea introduced above that work can be a burden may have some merit, as work can obviously be stressful and tiresome. There has, however, been a growing body of evidence suggesting that work provides much more to people than the income they receive that they can then exchange for goods and services. Work may enable a person to fulfil their human potential. A job enables them to face new challenges and to solve problems and, in doing so, they develop their brain and their skills and competencies. Finding meaningful employment is often associated with self-esteem and may bring with it a sense of achievement. Many jobs in the modern economy may also enable people to explore their **creativity** and this can also provide a sense of wellbeing.

Work also helps to create an environment for **social interaction**. Many people would find the lack of contact with others detrimental to their mental wellbeing, if they did not work. Many workplaces that promote teamwork and collaborative problem-solving also promote a sense of **belonging** and **shared goals**, which further enhance the well-being of the individuals involved. Even the simple experience of interacting with others and being recognised for their achievements each day can enhance a person's life.

Many people go to work knowing that they are working towards a **higher purpose**. They may see themselves as part of an organisation that is making the world a better place. They may be helping the less privileged, building the infrastructure that will make the economy function better or providing goods and/or services that make the lives of others easier and more enjoyable. Some also start their own businesses, which brings with it a sense of accomplishment and autonomy that they may not find in regular employment.

If one were to take a more negative view of work, one could argue that, in a country like Australia, people sometimes have to work because the government may remove their benefits. Subsequent governments in Australia have promoted the idea of **mutual obligations**. Those who receive government support while they are unemployed are expected to undergo training or perform certain tasks that have the potential to add value to society.

Shifts in the demand for labour

As we learned in Chapter 4, any factor that changes an organisation's willingness to employ labour, apart from the actual wage or remuneration, will shift the demand curve for labour either to the left (a decrease) or to the right (an increase). Examples of factors that will increase the demand for labour, shifting the demand curve to the right include the following:

Greater levels of efficiency or labour productivity

If labour becomes relatively more efficient, it means that the **quality of labour** has increased relative to the quality of other factors of production and employers are more likely to demand labour and employ workers. Of course, the reverse is true if there is an improvement in the relative efficiency of capital (e.g. machinery) due to advances in technology.

A reduction in non-wage labour costs, such as payroll tax or Workcover insurance

Payroll tax is a tax levied by state governments in Australia. It is paid by employers, based on the size of their wages bill. If there is a reduction in payroll tax, for example, this means that overall costs of employing staff will fall, making it more cost effective for employers to increase the size of their workforce by increasing their demand for labour. Workcover insurance provides protection for employees who are injured doing their job, and represents a cost to the employer. If Workcover premiums fell, then this would have a similar effect as a reduction in payroll tax.

An increase in the production of goods or services

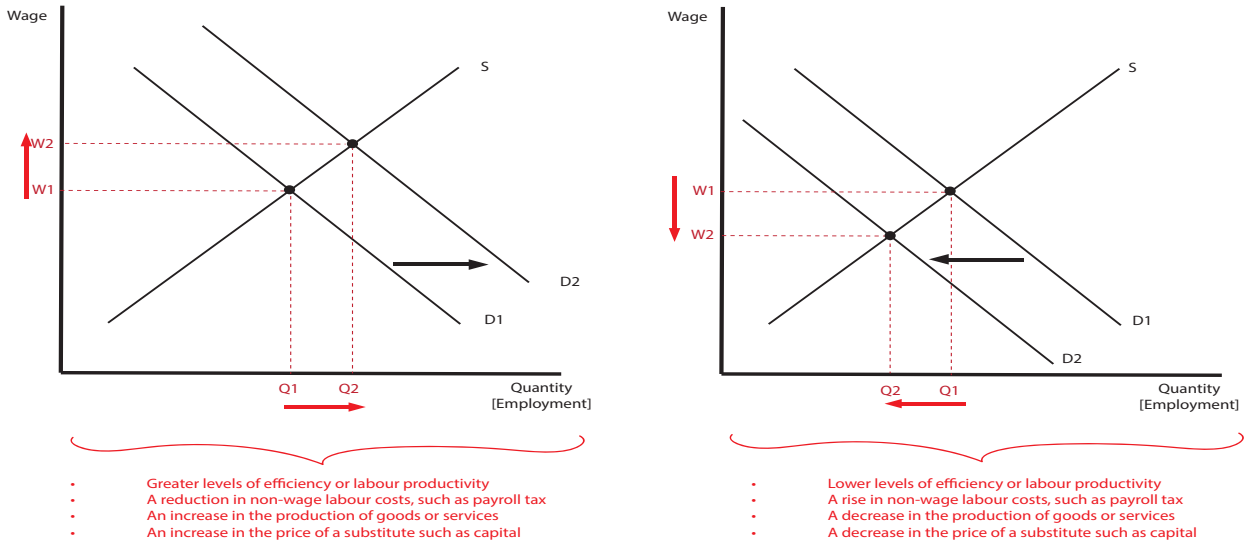
When more goods are produced in response to higher consumer demand, it will necessarily lead to an increase in demand for factors of production. This leads to a higher **'derived demand for labour'** (i.e. the demand is essentially derived from greater production of goods and services).

There is an increase in the price of a substitute factor of production (such as capital)

If the cost of machinery or robotics increases, it reduces the relative price of labour and makes it more likely that an organisation will replace capital with labour, which increases the demand for labour.

Each of these factors will cause the demand curve to shift to the right, resulting in a higher wage and greater employment in that market. In the event that one or more of these factors moved in the opposite direction, the demand for labour would shift to the left, resulting in a lower wage and less employment in that particular market. These shifts in the demand curve and the effects on wages and employment are depicted in Figure 7.2 below:

Figure 7.2



Shifts in the supply of labour

While it is true that employees are primarily concerned about remuneration, there are a number of factors, apart from the wage or remuneration, that will influence individuals' willingness to offer their labour services to the market. These factors will either increase or decrease the supply of labour, shifting the supply curve for labour to the right (an increase) or to the left (a decrease). Examples of factors that will increase the supply of labour include the following:

An increase in the non-financial benefits of work

There are numerous examples of 'non-financial' benefits and/or costs associated with employment. The benefits include a sense of purpose provided by work, improved self-esteem or status associated with certain jobs, the benefits of being part of 'a team' and the job security attached to certain jobs.

A decrease in the non-financial costs of work

The non-financial costs associated with work include the riskiness associated with a job, such as the risky nature of police or mining work, as well as other factors like stress levels, work hours and travel time to work. When the non-financial costs of work decrease, individuals will be much more willing to offer their labour services.

A fall in the wage received in competing labour markets

When there is a decrease in the wages offered in a particular labour market, it will result in individuals offering their services in other labour markets. For example, in the markets for relatively unskilled labour, if the demand for cleaners fell, then wages for cleaners will eventually fall, and over time fewer workers would offer their labour services to the market for cleaners (represented by a contraction along the supply curve). Instead, they would offer their labour services in another market, such as the market for parking attendants, because the wage will be 'relatively' higher than before. This will result in a greater supply of labour at commercial car parks (represented by a shift to the right of the supply curve in the market for parking attendants). Note that the first change in supply in the market for cleaners is as a result of a change in the price (wage) for cleaners, while the change of supply in the market for car park attendants is a result of a change in supply at all possible prices.

An increase in net overseas migration to Australia

If more people enter Australia as immigrants compared to those that exit as emigrants, we experience an increase in **net overseas migration**. This should eventually lead to a larger supply of workers in various labour markets, shifting the supply curve to the right and exerting downward pressure on wages. In Australia's case, the skilled migration program seeks to ensure that we experience increases in the supply of migrant labour in those markets experiencing labour shortages. In recent times, this included accountants, engineers, architects, nurses, chefs, locksmiths, and medical professionals (in rural regions).

A reduction in restrictions on entry to some professions

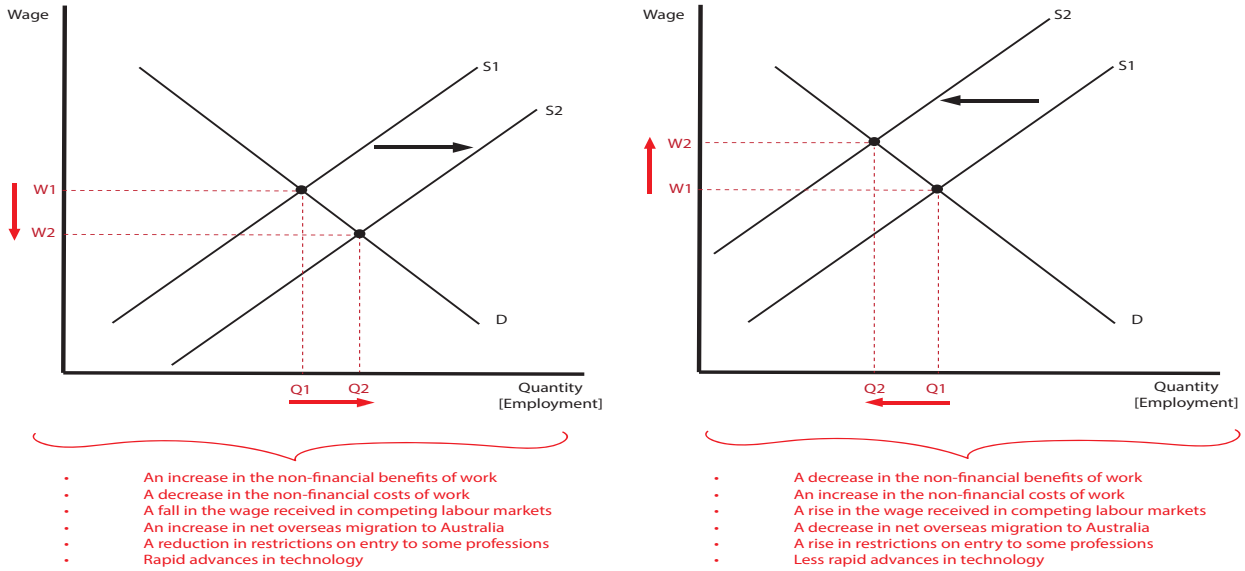
A number of professions restrict entry of people into courses of study in order to maintain high standards, as well as to keep the remuneration levels high. The best examples in Australia include the legal, medical and dental professions. If these restrictions were eased, more students would enroll in these types of courses, which would eventually increase the supply of labour to these professions in the long run.

Advances in technology

While it is common to see changes in labour saving technology that ultimately reduces the demand for labour, there are also examples of changes in technology that make it easier for individuals to supply their labour. General advances in internet technology have made it feasible for people in remote locations to offer their labour services to employers based in city regions. For example, faster internet speeds have enabled some professionals to live in remote parts of Victoria and offer their expertise to employers in the heart of Melbourne. In addition, recent developments in digital technologies (and the spawning of the **digital economy**) have provided individuals with the opportunity to easily and flexibly offer their labour services in the 'digital economy'. For example, it is relatively straightforward for someone to offer their services as a driver via apps such as Uber, Didi and Deliveroo, or to offer their skills to the market via apps like Airtasker or hipages.

Each of these factors will cause the supply curve to shift to the right, resulting in a lower wage and greater employment in that market. In the event that one or more of these factors moved in the opposite direction, the supply of labour would shift to the left, resulting in a higher wage and less employment in that particular market. These changes are depicted in Figure 7.3 below:

Figure 7.3



- An increase in the non-financial benefits of work
- A decrease in the non-financial costs of work
- A fall in the wage received in competing labour markets
- An increase in net overseas migration to Australia
- A reduction in restrictions on entry to some professions
- Rapid advances in technology

- A decrease in the non-financial benefits of work
- An increase in the non-financial costs of work
- A rise in the wage received in competing labour markets
- A decrease in net overseas migration to Australia
- A rise in restrictions on entry to some professions
- Less rapid advances in technology

Application exercise 7a

You have been hired as the Human Resources Manager of a five star hotel chain. The manager wants to use your skills as an economist and asks you to conduct an investigation into the labour supply and demand conditions in the industry. After your analysis you report the following data to your manager:

Labour market for hotel workers		
Wage ($ per hour)	Labour demand (hours)	Labour supply (hours)
5	25 000	5 000
10	20 000	10 000
15	15 000	15 000
20	10 000	20 000
25	5 000	25 000
30	0	30 000

Questions/tasks:

1. Prepare a suitably-labelled labour demand and labour supply graph that clearly illustrates the equilibrium wage and number of hours worked.
2. Explain what would happen in the market if Fair Work Australia set a minimum wage of $21 per hour.
3. Explain how the equilibrium wage and the number of hours worked might be affected for each of the following scenarios. In your answer, ensure you refer to the effect on either demand for or supply of labour, and the reason for this effect:
   - The introduction of new technology such an automated concierge desk
   - There is a decrease in consumer confidence
   - Hotel workers are put on performance-based contracts, where their wages are linked to productivity
   - The wages offered to workers in the retail sector of the economy increase significantly (e.g. ALDI offers high rates of pay to attract workers to its supermarket chain)
   - Growth in Airbnb has taken significant market share from hotels
   - The growth in the digital economy makes it easier for workers to offer their labour services in other parts of the economy
   - The ageing of the population means that many experienced workers start to retire

Review questions 7.1

1. What is a labour market?
2. Explain why the demand for labour curve is downward sloping.
3. Explain why the supply of labour curve is upward sloping.
4. Explain how the labour market returns to equilibrium if the wage was above the equilibrium level.
5. Explain how the labour market returns to equilibrium if the wage was below the equilibrium level.
6. Distinguish paid work from unpaid work.
7. Distinguish employment from unemployment.
8. Explain why people work and outline how work can be considered a disutility for some people.
9. Describe some factors that have the potential to increase the demand for labour and describe the influence this will have on employment.
10. Describe some factors that have the potential to increase the supply of labour and describe the influence this will have on employment.

7.2 Key labour market indicators

Each month the Australian Bureau of Statistics (ABS) conducts its **Labour Force Survey**. This survey takes a snapshot of the labour market to determine growth in employment, the behaviour of those of working age and the unemployment rate. The Labour Force Survey is conducted by trained interviewers and involves interviewing the same people eight months in a row. Each month one-eighth of the sample is replaced with new interviewees and approximately 26,000 households are surveyed. This equates to 0.32% of the population, but the ABS believes that the sample chosen is a good representation of the population at large. The ABS will ask a series of questions to determine whether a person is employed, unemployed or not in the labour force.

Definitions of employed and unemployed

The ABS provides a comprehensive definition of what it means to be classified as **employed**. The total number of employed persons is made up of those aged 15 years and over who, during the reference week:

a. worked for one hour or more for pay, profit, commission or payment-in-kind in a job or business, or on a farm (comprising employees, employers and self-employed workers); or
b. worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
c. were employees who had a job but were not at work and were:
   - away from work for fewer than four weeks up to the end of the reference week; or
   - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
   - away from work as a standard work or shift arrangement; or
   - on strike or locked out; or
   - on workers' compensation and expected to return to their job; or
d. were employers or self-employed workers, who had a job, business or farm, but were not at work.

People are therefore employed if they fit into any of the above categories. This definition therefore includes the self-employed and those who may have been off work for illness, strikes or on holidays. The "reference week" is the week before the week when the survey was conducted.

The ABS classification of an **unemployed** person also has several components. Unemployed persons are those who are aged 15 years and over who were not employed during the reference week, and:

a. had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
b. were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

It is important to note that a person must be **actively looking for a job** to be classified as unemployed. The ABS then uses these figures to calculate the total people in the **labour force**. This is equal to those who are employed plus those who are unemployed. In other words, if a person does not look for a job, or is unavailable to start a job, then they are not counted as part of the labour force for that period's survey. Once this information is gathered from the participants, the ABS then calculates statistics that help to measure changes that have occurred in both labour markets and the economy more generally.

The unemployment rate

The unemployment rate measures the percentage of those who are in the labour force (looking for work or who have paid work) who are unable to find work. The formula used to calculate the unemployment rate is as follows:

$$\text{Unemployment rate} = \frac{\text{Total number unemployed}}{\text{Labour force}} \times 100$$

Where: Labour force = Unemployed + employed

The second useful statistic is the participation rate, also known as the **labour force participation rate (LFPR)**.

The participation rate

The **participation rate** measures the percentage of the total working age population (i.e. those over 15) who are members of the labour force, which means they are either working or actively seeking and able to start work.

$$\text{Participation rate} = \frac{\text{Labour force}}{\text{Total population over 15}} \times 100$$

We can illustrate the usefulness of these statistical measures by considering the following statistics for the Australian Economy from July 2022.

Employed persons (000s)	13,558,400
Unemployed persons (000s)	473,600
Population over 15 (000s)	21,128,300

These statistics indicate that there were approximately 7.1 million people of working age who were not part of the labour force. This might include those who have retired, who are involved in study, stay-at-home parents or those who have simply given up looking for work.

Based on the above numbers, the unemployment rate and participation rate for July 2022 can be calculated as:

$$\text{Unemployment rate} = \frac{473.6}{13558.4 + 473.6} \times 100$$

$$= \frac{473.6}{14032.0} \times 100$$

$$= 3.4\%$$

$$\text{Participation rate} = \frac{\text{Labour force}}{\text{Total population over 15}} \times 100$$

$$= \frac{13558.4 + 473.6}{21128.3} \times 100$$

$$\frac{14032.0}{21128.3} \times 100$$

$$= 66.4\%$$

An unemployment rate figure of 3.4% means that, of those in the economy who would like to work (who are willing and able to work), 3.4% are unable to find paying work. A participation rate figure of 66.4% means that 66.4% of the working age population are either working or actively seeking work. Another way this can be interpreted is to say that 66.4% of the potential Australian labour force are actually members of the labour force.

Underemployment and underutilisation

It could be said that labour force statistics don't tell the whole story about underutilised labour. Many economic and social commentators have suggested that the unemployment statistics hide from view some nasty truths about the state of the economy because of the very narrow definitions used by the ABS and most other statistical agencies around the world. For example, a person need only work one hour a week and they are counted as employed. This could effectively mean that they are unemployed for the rest of the week. The unemployment rate statistic would, however, suggest otherwise and would therefore tend to be understated. Many people who work part-time would like to work more hours (usually full time) and they are referred to by economists as **disguised unemployed** or **underemployed**. The underemployment rate is calculated as follows:

$$\text{Underemployment rate} = \frac{\text{Underemployed}}{\text{Labour force}} \times 100$$

Another criticism of the labour force statistics is with the definition of unemployed. The definition only includes those who are actively looking for work, but there will often be a number of 'unemployed' people in Australia who are recorded as "not in the labour force" because they have not looked for a job in the reference week of the survey. During an economic downturn the incidence of this **hidden unemployment** tends to rise as the likelihood of finding a job decreases. People may apply for a number of jobs and the on-going rejection leads to a deflated outlook and eventually the person gives up looking. This is called the **discouraged worker effect**. As a result, the unemployment statistics will typically understate the true level of **labour force underutilisation**.

The ABS also calculates the **labour force underutilisation rate** which is a measure that aims to take into account the labour that could be used in the production process, but which is effectively being wasted. The labour force underutilisation rate therefore attempts to address one of the limitations of the unemployment rate by adding the total unemployed to the underemployed and dividing this number by the labour force. The underutilisation rate is calculated as follows:

$$\text{Underutilisation rate} = \frac{\text{Unemployed} + \text{Underemployed}}{\text{Labour force}} \times 100$$

OR

$$\text{Underutilisation rate} = \text{Unemployment rate} + \text{Underemployment rate}$$

The underutlisation rate for July 2022 was 9.4%, made up of 3.4% unemployment and 6.0% underemployment.

Application exercise 7b

From the following hypothetical labour force statistics, complete the tasks below. **(Show your calculations and beware - not all of the figures in the table are required for the answers!)**

Labour Force statistics/data (hypothetical)	
Item/category	**(000)**
Population aged over 15	1,000,000
Labour force	700,000
Employed people full-time	550,000
Employed people part time/casual	100,000
Part time/casual workers wanting more work (included in the 15,000)	10,000
People who would love to work but have stopped looking	5,000
Unfilled vacancies	5,000
Unemployed people	50,000

Questions/tasks:

1. Calculate the unemployment rate.
2. Calculate the underemployment rate.
3. Calculate the participation rate.
4. Calculate the underutilisation rate.
5. Calculate the number of people of working age who are neither employed nor unemployed.
6. Identify the number of persons who are classified as 'hidden unemployed'.
7. Assume that the economy improves and all of those previously 'hidden unemployed' start to look for work. Calculate a new unemployment rate and participation rate.

Review questions 7.2

1. What is the difference between a person who is categorised as employed and someone who is categorised as unemployed?
2. Explain how the ABS calculates the unemployment rate.
3. Explain what is measured by the (labour force) participation rate.
4. Why might the participation rate decrease in a period of low economic activity?
5. What is the difference between those who may be described as hidden unemployed and those who are described as disguised unemployed (i.e. underemployed)?
6. Based upon your answer to Question 2, explain why the unemployment rate, as reported by the ABS, may understate the true level of labour force underutilisation.
7. Explain how the underemployment rate and the underutilisation rate are calculated.

7.3 Causes and types of unemployment

There are two general causes or types of unemployment:

1. Unemployment caused by a lack of aggregate demand (**cyclical unemployment**)
2. Unemployment caused by structural, seasonal, frictional and hard-core factors (often referred to as **natural unemployment**)

Cyclical unemployment

As was discussed in detail in Chapter 6, aggregate demand (AD) measures the total spending on Australian made goods and services. It is worth recalling, here that the Australian Bureau of Statistics likes to break up aggregate demand into a number of components. This helps economists and researchers to isolate changes in spending patterns and the information can be utilised to develop policy initiatives. As was explained previously, the Aggregate Demand equation is:

$$AD = C + I + G + X - M$$

where:

C = private consumption expenditure – all expenditure on consumption by households and non-profit institutions serving households.

I = Private investment expenditure – purchase of new equipment and plant, buildings and vehicles, including stock purchased by firms and new housing by households.

G = Government Expenditure – all spending by Federal, State and Local Governments. Government expenditure is further broken down into G1 – current spending on goods and services necessary for governments to operate, including salaries – and G2 – investment spending by government on capital and infrastructure, such as roads, schools and hospitals.

X - M = Net Exports (Exports Minus Imports) – the difference between the value of goods and services made in Australia and purchased by overseas buyers (exports) and foreign-made goods and services purchased by Australian buyers (imports).

How a reduction in AD creates cyclical unemployment

A fall in AD, or slow growth in AD, will generally mean that production targets for future periods will fall. Lower sales and provision of services will mean that producers will need less labour in the production process. As a result the lack of AD will cause **cyclical unemployment**. In other words, the labour demand curve will shift to the left, at the existing wage. Given that wages are unlikely to fall (at least in nominal terms), there will be a surplus of labour in the market and this will cause unemployment.

John Maynard Keynes, author of *The Means to Prosperity* and *The General Theory of Employment, Interest and Money*, suggested that the effects of a decrease in demand in one section of the economy could have ripple effects through the rest of the economy. He described this as the **multiplier effect**, which can be both positive and negative. If there is a decrease in **consumer confidence** for example, households may choose to save a greater portion of their income because they are concerned about their future employment prospects. In doing so, their spending on goods and services will decrease. Businesses will notice a decline in demand and look to reduce production levels. This will lead to a decrease in the derived demand for labour and an increase in the unemployment rate and/or a decrease in the number of hours

worked. As a result, disposable incomes are likely to fall which will initiate another round of decreased spending, and the initial effect is multiplied throughout different sectors of the economy.

Cyclical unemployment is generally associated with economic downturns which are part of the **business cycle** (see Chapter 6). The most extreme example of this occurs during a depression (such as the Great Depression in 1929). During these periods, confidence and AD decrease significantly and the unemployment rate rises sharply. Unemployment during the Great Depression was estimated to be 30%. During the recession of the early 1990s, it was 11% and the COVID-19 induced recession of 2020 caused the unemployment rate to climb to 7.5%. However, during COVID-19, the 'effective' or true rate of unemployment was roughly double this, at approximately 15%, but this was hidden from the statistics due to the Federal Government's JobKeeper wage subsidy, which paid businesses to keep workers as paid employees despite the fact that many were isolating at home, and many businesses were closed..

It is also useful to note that falls in AD, and the associated drop in the demand for labour, will not always flow through to a higher unemployment rate. This is because lower levels of AD will naturally result in a reduction of hours worked across workplaces, which leads to an increase in **underemployment** (or disguised unemployment) and a rise in the labour force underutilisation rate.

Factors causing cyclical unemployment to rise

There are a range of demand-side factors that can cause AD to fall, which increases cyclical unemployment. Some of them are influenced by the government and others are outside the government's control. Most of the common factors affecting AD were covered in Chapter 6. Neverthless, it is worth re-capping, this time with a focus on how the factors impact on cyclical unemployment.

Consumer confidence (sentiment)

As discussed in Chapter 6, **consumer confidence** aims to measure the general feeling of positivity or negativity about the future state of the economy. Households will tune into the information contained in the media and make an assessment about their future employment prospects and whether they are likely to gain a pay rise. If sentiment decreases this means that consumers may become more cautious with their income. It is reasonable to expect that during periods of low consumer confidence households will save a greater portion of their income and be less willing to take on new debt. This causes AD to decrease and cyclical unemployment to rise. This is precisely what occurred during the height of COVID-19, as consumer confidence plummeted, savings grew and cyclical unemployment climbed to relatively high levels.

Economic growth in our major trading partners

Between 20% and 25% of Australia's AD is determined by the incomes and purchasing habits of foreign nations. If a major trading partner such as China had a reduction in its rate of economic growth, this means that the growth in demand for Australian exports would also decrease. China's growth has been one of the major reasons why the mining sector in Australia has expanded at such a rapid rate. It has also meant that incomes from mining have increased and this increase in incomes has flowed into other sectors in the economy via the **multiplier effect**. As explained earlier, as AD increases, this causes cyclical unemployment to decrease. The slower growth rates being experienced in China over 2022 (due in part to an increase in COVID-19 restrictions), is currently combining with the slower projected global growth rate to exert a negative influence on Australian AD over 2022-23. This should see (cyclical) unemployment climb from the very low levels experienced during the middle of 2022.

Interest rates

Interest rates represent the rewards from lending (saving) and the costs of borrowing. Indebted households are very sensitive to changes in interest rates and most households have (home) loans with variable interest rates, which means that the interest rate charged by their lending institution can change at any time. When interest rates increase, the indebted households (and businesses) must pay more back to the bank in interest and as a result the amount of money they have left over after paying their bills has decreased. This amount left over is sometimes called **discretionary income** and a decrease in discretionary income is likely to lead to a decrease in spending on goods and services. Higher interest rates will also cause households and businesses to reduce their demand for credit, further decreasing AD via the negative impact on both Consumption and Investment demand. An increase in interest rates will therefore have a negative effect on cyclical unemployment because it reduces spending, leading to a decrease in both the demand for labour and employment.

The exchange rate

The exchange rate will have an influence on the demand for Australian-made goods and services because it affects relative prices. Whenever an Australian business sells a good or service they generally want to be paid in Australian dollars. An **exchange rate appreciation** means that foreigners will need more of their currency to obtain each Australian dollar. Therefore, the demand for Australian products will decrease as they become relatively more expensive when compared to foreign made goods and services. This decreases the demand for exports and/or increases the demand for imports to replace the Australian-made products which are now relatively more expensive. For example, a high Australian dollar reduces the incentive for foreigners to visit Australia for a holiday and at the same time it encourages more consumers to use the Internet to buy their products from cheaper overseas suppliers online. This will reduce the AD and lead to greater cyclical unemployment.

'Natural' unemployment and NAIRU

There will continue to be some unemployment even during times of strong AD, when there is an absence of cyclical unemployment. This "natural" unemployment arises in the economy due to the presence of structural, seasonal, frictional and hard-core factors.

The natural rate of unemployment is also equivalent to the **Non-Accelerating Inflation Rate of Unemployment** or **NAIRU** for short and is also generally considered to be the rate of unemployment that exists when full employment is achieved. Full employment or NAIRU exists when unemployment cannot fall further without triggering excessive rates of inflation. This means that any attempts by governments to reduce the unemployment rate below NAIRU will simply cause unacceptable levels of inflation. This occurs because labour markets tighten and wages increase, which causes an increase in costs of production, prompting businesses to raise prices. In addition, the higher wages add to AD, further adding to price pressures and inflation. During 2021, Federal Treasury and the RBA estimated that NAIRU occurred when unemployment was at 4.25%, which if true, means that unemployment rates below 4.25% would lead to an acceleration of wages and inflation. However, during 2022, unemployment fell to an extremely low 3.5%, and wages growth was largely absent, prompting many to claim that NAIRU occurred below 4% (or even below 3.5%).

Structural unemployment

Structural unemployment exists when the skills possessed by some members of the workforce do not match the skills required by businesses. This type of unemployment will always exist in a dynamic economy, where new technologies are employed over time and there is ongoing restructuring of businesses or organisations more generally. Those individuals who become structurally unemployed will often become long-term unemployed (i.e. unemployed for more than one year) and they are more likely to be older members of the labor force who find it relatively difficult to upgrade their skills. The existence of **structural unemployment** helps to explain why it is very difficult for the unemployment rate to be reduced towards zero.

Structural unemployment can be caused by a range of factors, including those factors listed below.

- The implementation of new **capital and technology** which render the skills of some workers obsolete. Over time, many occupations have disappeared because inventors have created capital which can complete the work more efficiently (and cheaper) than labour resources. For example, robotics contributed to structural unemployment in the car manufacturing sector; Internet banking has caused structural unemployment in the banking industry; and self-serve checkouts has caused structural unemployment in the supermarket industry.

- Changing patterns of demand occur as **tastes and fashion** change. This means that demand for some goods and services may fall while others increase. The problem is that the change in demand doesn't necessarily mean that those whose jobs are no longer required can move straight into working somewhere else. Retraining may be necessary and this will take time, and in some cases the person may be too old or unable to undertake the training, or the training may not be provided or available. For example, the preference for online over traditional store retailing has caused structural unemployment in the retail sector.

- The increased incidence of **outsourcing** contributes to structural unemployment, especially if businesses relocate parts of their operations to another country. For example, many companies have outsourced their

information technology (IT) requirements to low wage countries such as India. This includes the development and maintenance of websites, mobile applications, and a range of other technology solutions. Similarly, firms have looked to reduce some of the costs associated with providing services such as call centres by contracting the work out to suppliers in low wage countries, such as the Philippines and Indonesia.

Frictional unemployment

Economists don't worry too much about **frictional unemployment.** It is caused when a person has left or finished a job and has yet to find a new job. In some ways it can be seen as the product of an efficient economy, as workers are seeking better opportunities in growing industries. Frictional unemployment can also be common for those in the construction industry whose employment may be disjointed because it is project based. Contractors may also experience short periods of frictional unemployment when they are between jobs.

Seasonal unemployment

Seasonal unemployment occurs for those workers whose skills are not in demand at certain times of the year. There are certain professions where economic activity is limited to a period of the year, and therefore for the rest of the year they may be unemployed. Therefore, seasonal unemployment may affect fruit pickers, ski-instructors and tourist operators. Seasonal unemployment can also increase at the end of the school/university year as there is an influx of graduates who are all looking for work simultaneously.

Hard-core unemployment

Hard-core unemployment is generally caused by individual characteristics that make it difficult or virtually impossible to gain employment. Hard core unemployment could therefore be caused by a criminal record, a drug addiction, a mental illness, a physical disability or lack of desire to genuinely seek work. This final characteristic may result in people registered for income support payments (e.g. JobSeeker allowance) looking for jobs they know they won't get in order to meet the eligibility criteria for the payment.

Application exercise 7c

Identify the type of unemployment applicable to each situation below. You must select from Cyclical (C), Structural (S), Seasonal (SL), Frictional (F), Hard Core (HC) as well as Hidden(HD) and Disguised unemployment (D).

Description	C	S	SL	F	HC	HD	D
Barry is a struggling actor who would like to work more hours							
Cali is a fitter and turner who lost her job when Ford ceased operations in Geelong							
Johnny is a notorious gangland member who has decided to become a law abiding citizen. His job application has been repeatedly rejected and he desperately needs work to survive							
Cindy's employer has struggled during COVID-19 and Cindy's hours have been reduced from 40 to 10. Cindy is not happy about this change							
During COVID-19 recession, a number of businesses were first to close their doors which resulted in employees being out of work							
Maybelle has left her high profile job in journalism with the short term intention of returning to the classroom as a teacher							
Calun has lost his job in the IT sector because his employer has outsourced all IT functions to India. Calun has been searching unsuccessfully for a job in the IT sector for several months							
Ingrid is a part-time student who wants to work more than the 15 hours offered by her employer							
Cheryl is a professional AFL footballer who struggles to find work outside of the AFLW season							
James has a disability which makes it difficult for him attend job interviews and he has been without a job for 2 years							

Review questions 7.3

1. Define cyclical unemployment. In your answer, refer to both AD and the business cycle.
2. Explain how a rise in consumer confidence and higher rates of economic growth overseas are likely to influence cyclical unemployment.
3. Explain how a depreciation of the exchange rate and lower interest rates are likely to influence cyclical unemployment.
4. Define the natural rate of unemployment. In your answer, make reference to NAIRU.
5. Define structural unemployment and outline two separate examples that demonstrate why structural unemployment might increase.
6. Describe the three types of unemployment that will exist if there is an absence of both structural unemployment and cyclical unemployment.

7.4 Consequences of unemployment

The impact on Individuals

It is fairly evident that unemployment will have a negative effect on the wellbeing of individuals. One of the most important effects is that they will suffer a significant drop in their income. The minimum wage is approximately $813 per week and the average wage is over $1300. In contrast, the unemployment benefit (i.e. JobSeeker allowance) is $322 per week. Also, Centrelink may require the unemployed person to wait until they have used up most of their savings before they gain access to government assistance. This will obviously decrease their **material living standards**, as households will not be able to afford as many goods and services.

In addition, becoming unemployed can have a negative effect on the person's enjoyment of life and ultimately reduce **non-material living standards**. Those unemployed might be more likely to become depressed, suffer from self–esteem issues and have fewer opportunities for meaningful interaction with other people. In addition, the longer the person becomes unemployed the more likely it is they will lose their skills, and this perpetuates the problems associated with being unemployed because people find it harder to become readily employable.

The impact on society

The nature of society can change during periods of high unemployment. The most noticeable change that would occur would be the inequity between those who have a job and those who do not. As discussed in Chapter 10, in Australia, unemployment is one of the major causes of **inequality in income distribution**. The gap between the high and low income earners will widen as unemployment rises and this may result in increased resentment and unease between people of different income levels.It is also possible that high rates of unemployment may be associated with increased criminal activity. Desperation may result in more incentive to steal and frustration could result in more violence and destruction of property. If severe enough, a very high degree of inequality in the distribution of income (and/or wealth) has the potential to trigger **social unrest** that culminates in distrust of social and political institutions as well as widespread protests and/or riots.

The impact on businesses, the economy and the government

From a business perspective, a high rate of unemployment will have both advantages and disadvantages. If there is a large pool of unemployed people to choose from, this might help businesses to recruit higher quality workers at lower costs. In addition, the high rate of unemployment might impose a discipline on the existing workforce, as they may be more fearful of losing their job and will therefore work harder (raising **labour productivity**) in order to keep their job secure.

The problem with a high unemployment rate is, however, that there are larger numbers of households with reduced **disposable income**. This will tend to reduce AD for a range of goods and services. It therefore follows that many businesses would suffer a reduction in their profitability which has the potential to result in business closure.

When greater numbers of Australians are unemployed the economy ultimately suffers. Unemployment essentially means that valuable labour resources are not being utilised in the production process and therefore the country is not operating at its **productive capacity**. As mentioned above, it could also mean that people lose their skills and may not be able to contribute to the economy in any meaningful manner. The lack of disposable income also means that demand

for goods and services will fall and this will multiply through other parts of the economy.

An increase in unemployment will also mean that the government will find it more difficult to achieve its budgetary goals, which is to achieve budget balance, on average, over the course of the business cycle. Receipts from income taxes (and other taxes) are likely to fall as fewer people have jobs and at the same time spending on government assistance such as unemployment benefits, along with training will increase. This will reduce the ability of the government to invest in future capacity, or to provide other government services, without further going into deficit and increasing the size of government debt.

Review questions 7.4

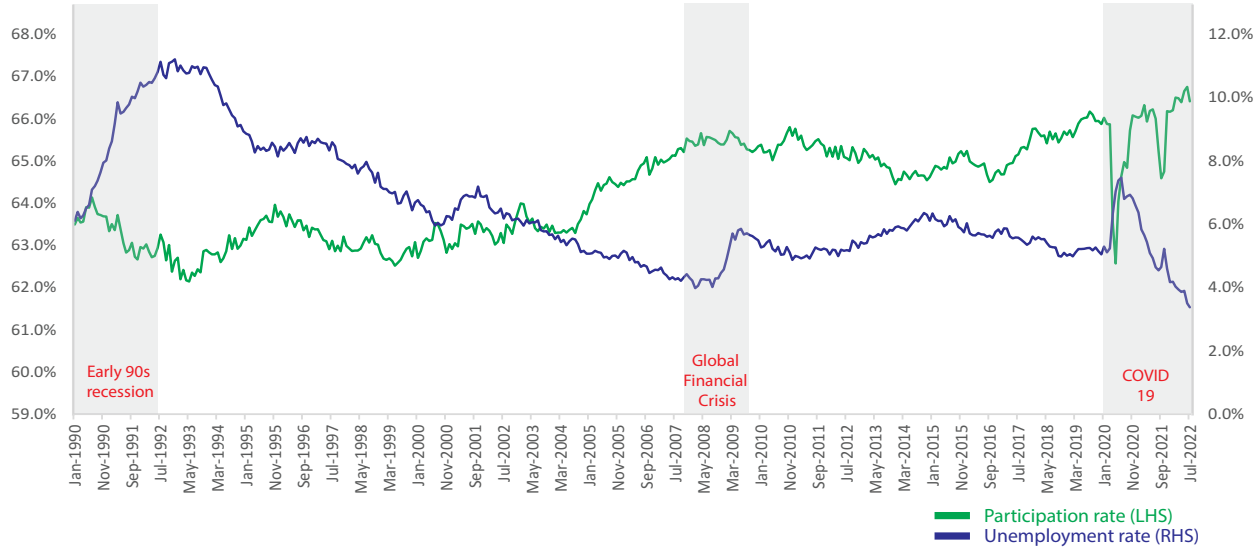
1. Describe how unemployment can have a negative influence on material living standards.
2. Describe how unemployment can have a negative influence on non-material living standards.
3. Outline how unemployment can benefit businesses.
4. Outline how unemployment can harm businesses.
5. Describe how unemployment can make it more difficult for the government to achieve its objectives.

7.5 Changes in Australia's labour markets

Trends in the unemployment rate and participation rates

The movement in both the unemployment rate and the participation rate over time is shown in Chart 7.1 below.

Chart 7.1
Participation rate & Unemployment rate



The early 1990s saw Australia experience a very high rate of unemployment (11%). Australia experienced a recession in 1990/91 which was associated with a decrease in the **derived demand for labour**. At the time there were more than one million people who were unemployed. It took considerable time for the unemployment rate to drop as the economy went through a period of downsizing and restructuring. Although there was strong economic growth during the 1990s, it was partially accommodated through productivity increases and increases in the use of technology. This resulted in **jobless growth**, a situation that occurs when economic growth is not associated with a noticeable decrease in the unemployment rate.

By 2000, the unemployment rate was falling towards 6%, which was still higher than what would be considered full employment (approximately 5%). After the introduction of the GST (Goods and Services Tax) in July 2000, and the slight downturn after the high of the Sydney Olympics, the unemployment rate increased to approximately 7%. Government policy responses and a strong economic recovery meant that the unemployment rate continued on its downward trend and reached a low of 4% in early 2008. This low unemployment rate brought with it a new set of problems as businesses found it difficult to attract suitable labour and there were skills shortages across the economy.

In the second half of 2008, the **global financial crisis (GFC)** affected employment all around the world and Australia's economic growth rate plummeted. Not surprisingly the unemployment rate increased quickly and by June 2009 it

reached a peak of 5.9%. The Federal Government's stimulus programme, low interest rates and stronger than expected growth in the Asian region (and the associated boost to Australia's terms of trade) all helped to avoid the rates of unemployment that were predicted at the outset of the GFC (Treasury predictions were initially 8.5%). Another reason why the unemployment rate did not go as high as predicted was the fact that attitudes to employment had changed when compared to the previous economic downturn and Australia's labour markets became more flexible. Rather than terminate employment contracts, employers chose to reduce the hours worked by their employees, sometimes referred to as **labour hoarding**. This meant that, although many were underemployed (e.g. working **part-time**) they were still counted as employed by the ABS, which helped to keep the official unemployment rate down.

The recent COVID-19 induced **recession** of 2020 saw large changes in both the unemployment rate and the participation rate as labour market conditions deteriorated significantly. As highlighted earlier, the official unemployment rate climbed above 7% [while the **effective rate of unemployment** climbed towards 15%] as the demand for labour decreased in response to lower AD and real GDP. In this environment, many Australians who lost their jobs (as well as those previously unemployed) lost faith in their ability to gain employment and simply stopped looking for work. This partly explains the huge fall in the **participation rate** to 62.6% by May 2020. However, it was compounded by the fact that many people who lost their jobs during this time did not search for a new job because social distancing/quarantining measures made this difficult. In addition, the federal government introduced a temporary relaxation of the job search requirements that are ordinarily tied to the receipt of unemployment benefits. This caused a large scale exodus from the labour market, reducing the participation rate significantly and preventing the unemployment rate from climbing to unacceptable levels.

Study tip

The effective rate of unemployment was defined as unemployment that included those who withdrew from the labour force (e.g. working zero hours) but remained 'employed' due to the operation of the government's JobKeeper wage subsidy scheme. In essence, the reported or official unemployment statistics during 2020 largely underestimated the true or effective level of unemployment that existed during that time.

The rebound in the participation rate since then to 66.4% in July 2022 partly reflects the reinstatement of the **mutual obligations** requirement for job seekers (to actively look for work) in addition to the economic recovery that has occurred since the onset of COVID-19 in 2020. This was, of course, contributed to by the federal and state government fiscal stimulus programs, combined with monetary policy support (i.e. very low interest rates) that helped to support AD, economic growth and the demand for labour. In the short term, it is likely that the participation rate will climb further as immigration rates return to normal. However, over the long term the participation rate is expected to decline as Australia's population ages which has implications for future rates of economic growth (see Ageing population below).

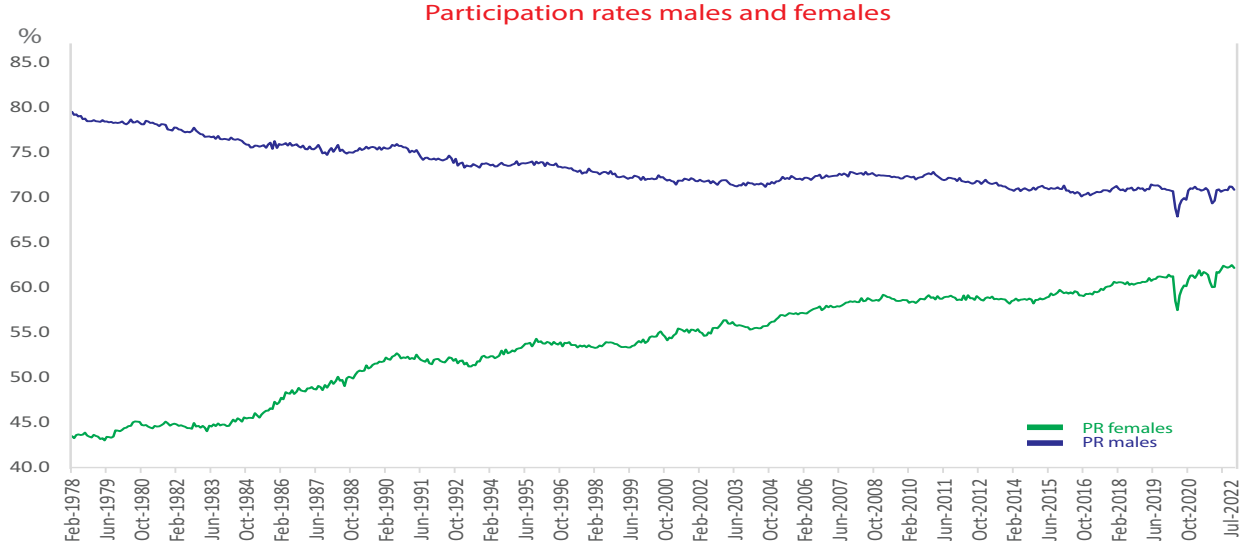
The decline in Australia's unemployment rate to a very low 3.4% by July 2022 would ordinarily suggest that both **wages growth** and its associated inflationary pressures would be significant. This is because a 3.4% rate of unemployment is below what was recently considered to be the full employment rate of unemployment, or NAIRU, of about 4.25%. However, while the rate of inflation did accelerate to more than 6% over 2022, this relatively high rate of inflation was less to do with growth in wage costs and more to do with growth in other costs of production stemming from COVID-19 supply chain disruptions, the war in Ukraine and the impacts of floods in eastern Australia.

So policy makers became puzzled about why why wages growth was not accelerating as would ordinarily be expected when the unemployment rate fell below what was thought to be the NAIRU. In fact, wages growth continued to be lower than the rate of inflation, meaning that **real wages** fell during a time when labour market conditions appeared to be extremely tight. Part of the explanation relates to the growth in **part-time employment** (and the casualisation of labour) as a share of total employment over many years and the associated increase in the **underemployment rate.** The underemployment rate has risen from approximately 2.5% in the late 1970s to as high as 9.4% in late 2021 (and 6% at the time of writing). This growth in the rate of underemployment means that any given rate of unemployment will be associated with a higher degree of **spare capacity** in labour markets. This of course means that the labour force **underutilisation rate** will be higher and that a low rate of unemployment (e.g. at 3.4% as at July 2022) might still exist alongside spare capacity in labour markets. Another part of the explanation relates more to a statistical quirk, with new strains of COVID-19 continuing to keep many workers at home who would otherwise be at work. This reduced the 'recorded' rate of unemployment as many businesses took on new (casual) workers to replace those away on sick leave. Despite this, a 3.4% rate of unemployment in the middle of 2022 that occurs alongside slow wages growth perhaps implies that NAIRU exists at a lower rate of unemployment than previously thought. This has implications for policy makers because it means that both the government and the RBA can more aggressively pursue expansionary policies in the future that are designed to boost employment and reduce unemployment without fear of triggering an **inflationary spiral** (i.e. higher prices followed by higher wages, followed by higher prices, etc.).

Changing labour force participation of women and men

Chart 7.2 below shows the movement in the participation rates for females and males since the late 1970s.

Chart 7.2
Participation rates males and females



The chart highlights that since the late 1970s the female participation rate has increased considerably from 43.5% in February 1978 to 62.2% in July 2022. The increased participation of women in the workforce reflects changing social attitudes to the role of women in society. The women's liberation movement in the 1960s and 1970s helped to bring equal opportunity and changes to Australia's anti-discrimination legislation that opened up new avenues and career paths for women. In addition, women have attained higher educational qualifications, workplaces have become more flexible and responsive to the needs of working mothers and childcare services have become more readily available. The growth in female participation in the labour force also flows from concerted government efforts to raise female participation, with the introduction of family friendly policies and/or laws such as more generous paid parental leave and childcare allowances. The decline in average family size (or the decline in the birth rate) has also been a factor contributing to higher female participation. In the government report, *Towards 2025 A strategy to boost Australian women's workforce participation*, the report's authors summarise the rationale for boosting female participation as follows:

> ***Increasing women's workforce participation leads to better living standards for individuals and families, improves the bottom line of businesses and is a significant driver of national economic growth. … Successive Intergenerational Reports have highlighted the importance of higher women's workforce participation to improving Australia's productivity and prosperity, and to reduce the fiscal pressures associated with providing welfare support to an ageing population.***

In contrast, the male participation rate has declined from 79.5% to 70.8% over the same time. The decline can be attributed to the decrease in economic activity in sectors that were traditional employers of men, such as manufacturing and utilities industries. The restructuring of many industries during the 1990s also meant that a lot of men were left with few options but to retire early. In addition, structural changes in Australian workplaces, and society more generally, have resulted in greater acceptance of females as the 'bread winner', resulting in more men being drawn away from the labour force to take on the role of primary carer. The higher life expectancy may also help to explain the lower participation rates of males. In previous eras these males may have died soon after their retirement, but longer life spans means that they spend more years as retirees. Consequently, they remain part of the working age population (i.e. over 15) but are not part of the labour force, reducing the participation rate.

Clearly, greater female participation in the labour market requires governments to continue developing policies that remove any lingering barriers to full and effective female engagement in the workforce. This includes removing any sex discrimination or gender inequality that may exist in workplaces that manifests in less pay or limited opportunities for advancement compared to male counterparts.

Wage inequality - the gender pay gap

Despite gains in female participation rates, there is still considerable disparity between male and female earnings. In 1994, female average full-time earnings were equal to $554 per week, which represented approximately 77% of the male equivalent. By November 2011, the same ratio was equal to 78% which meant that the average full time wage disparity was equal to $330 per week. However, in May 2022, female average earnings was $1,609.00 compared to men's of $1,872.90, meaning that the women still earn $263.90 less than men on average.

Gender discrimination is often cited as a reason for the gap. For example, it is argued that discriminatory hiring practices exist in some instances and women experience relatively fewer opportunities for both promotion and training. Some other reasons offered by economists for this discrepancy are that women are more likely to leave the workforce for extended periods to look after children, which limits their opportunities to be promoted to higher positions in their organisations. In addition, men tend to work in industries that receive higher remuneration, such as construction, mining and financial services, while women tend to work in professions which are female-dominated and which pay relatively low wages, such as aged care and child care. Men are also more likely to be members of unions, who are active in pursuing higher rates of pay (and better conditions) over time. Men also tend to dominate senior positions that are relatively high paid. This may also be a reflection of unacknowledged discrimination and the fact that women who leave the workforce (or who work part-time) aren't able to put in the hours to access the necessary promotions, or they work in environments that don't allow for flexible working arrangements. [See Application exercise 7d.]

Application Exercise 7d 'The gender pay gap'

Read the following edited KPMG Media release titled 'The gender pay gap nears $1 billion per week'. The full release can be accessed at the following location: *https://home.kpmg/au/en/home/media/press-releases/2022/07/the-gender-pay-gap-nears-1-billion-per-week-13-july-2022*

The latest edition of *She's Price(d)less: The economics of the gender pay gap* shows that accounting for labour force participation rates and incomes, the national pay gap is estimated at $966m per week or $51.8b per year. The joint report released today by KPMG, Diversity Council Australia (DCA), and the Workplace Gender Equality Agency (WGEA), is the only analysis of its kind in Australia that evaluates the contributing drivers of the gender pay gap to explain why the gender pay gap exists, and what needs to be most addressed to close the gap.

The analysis, based on the Household Income and Labour Dynamics in Australia (HILDA) survey, shows gender discrimination remains the leading driver of the pay gap, contributing 36 percent of the $2.56 hourly pay gap. Other key pay gap drivers are caring for family and workforce participation (33 percent) and the type of job and industry sector of employment (24 percent).

KPMG Chairman, Alison Kitchen said, "Since our last report in 2019, the gender pay gap has remained stubbornly unchanged despite action across the public and private sector to tackle gender inequality. This report shows that gender discrimination continues to be the single largest contributor to the gender pay gap. It also shows a worrying trend in the rise of industry and occupation segregation. We must collectively increase our efforts to build a better and fairer Australia." …Mary Wooldridge Director WGEA, said, "Greater action by employers to address the systemic drivers of the gender pay gap is an investment in our future economic prosperity. Actions employers can take today include undertaking gender pay gap audits and actioning findings, increasing the share of women in leadership positions, and enhancing availability and uptake of parental leave and flexible work by men and women. WGEA collaborates with employers making these changes and seeing real, tangible benefits for their workforce and for their business."

The glass ceiling

The report also includes an analysis of the gender pay gap by income quintile, which shows gender discrimination, lack of opportunities for promotion, and underrepresentation in management impact women throughout their careers. It also reveals that women at the start of their career experience a pay gap of 6 percent but as they progress through their careers to top management levels, the pay gap increases to a high of 18 percent. DCA CEO, Lisa Annese, said, "To act with purpose in addressing the gender pay gap now would not only invest in our nation's future economic prosperity but also help overcome the tough economic conditions we face. …Action now is particularly important for low paying industries where women comprise the workforce majority, such as healthcare and education, which we rely on in our daily lives."

…The *She's Price(d)less* report shows that greater action by industry, the community, and governments to address the systemic drivers of the gender pay gap is both a collective obligation and an investment in Australia's future economic prosperity.

Questions

1. **In annual dollar terms, what is the value of the gender pay gap?**
2. **According to the analysis, outline the leading causes of the pay gap.**
3. **Explain how industry and occupation segregation accounts for some of the gender pay gap.**
4. **Outline some of the things that employers can do to address the gender pay gap.**
5. **Define the term 'glass ceiling' in the context of gender pay gaps.**
6. **Explain how efforts to address the gender pay gap can be seen as an investment in Australia's future economic prosperity.**

Casualisation, outsourcing, and the gig economy

Casual employment typically refers to an employment relationship whereby employees are offered 'no firm advance commitment' that there will be ongoing work with the business. The nature of the employment relationship is therefore very flexible, with employers offering work to casual employees when labour is required and employees have the freedom to reject offers of work by their employers. Casual employees are usually paid a loading (an additional amount above that paid to permanent employees) that helps to compensate them for the fact that they will have no access to leave payments (e.g. sick leave and long service leave). Given the non- permanent nature of the employment relationship, it is a less secure form of employment, but one that offers potential benefits for both employers and employees. From an employer's perspective, the increase in the number of casual (and part-time workers) means that labour resources can be employed when they are needed, without the risk of labour being idle during periods of slow demand. From an employee's perspective, the increased **casualisation** of the labour force benefits those who cannot afford the time to work on a (full time) permanent basis (e.g. students and care givers) or those who simply prefer not to be permanently attached to any particular employer, such as those preferring a more varied or leisurely lifestyle.

The ABS defines casual employees as those that have no access to leave entitlements, and according to this definition, there was a relatively large increase in the use of casual employment during the 1980s and 1990s, with the casual share of all employees increasing from about 13% to 24%. Since then the ratio has stabilised somewhat to rest at about 25%. Young workers between 15 and 24 years of age are the ones most likely to be working on a casual basis (e.g. working in hospitality and retail). In addition to the use of casual labour, many businesses have sought to take advantage of the additional flexibility that is attached to the **outsourcing** of labour to 'labour hire companies' or the acquisition of labour as contractors rather than employees. These types of arrangements have become increasingly prevalent in the new digital economy, where companies like Uber and Deliveroo offer work to drivers so long as they agree to set up as individual contractors. Critics of these new employment relationships argue that it is an attempt by larger companies to erode workers' rights (e.g. to leave entitlements, penalty rates and minimum wages laws) in order to drive down labour costs. There have been recent examples of union bodies challenging companies in the courts in order to prevent what they see as a clear attempt to cut costs by eroding workers' rights. [See Application Exercise 7e.]

The increased casualisation and outsourcing is likely to add to the stress associated with working for many people as **job security** is eroded and the employer can terminate employment with relative ease. In addition, casual employees will typically find it more difficult to enjoy a host of other benefits that accrue to permanent employees with more secure jobs. For example, casual employees will find it much more difficult to secure rental accommodation and/or to obtain a loan from a financial institution.

Application Exercise 7e 'Qantas and 'illegal' outsourcing of jobs'

Read the following edited article by Nassim Khadem published by ABC News in May 2022 and answer the questions below. The complete article can be accessed at the following location: *https://www.abc.net.au/news/2022-05-04/qantas-loses-appeal-outsourcing-case-with-compensation-penalties/101036724*

Qantas has lost its appeal against a Federal Court decision that found the outsourcing of about 2,000 ground crew workers was illegal. But the company now plans to appeal the landmark case to the High Court. If it loses it could be liable for hefty costs including compensating the sacked workers as well as facing penalties.

Last year, in one of the largest reinstatement cases ever heard, the Federal Court found in favour of the Transport Workers Union (TWU) against Qantas in challenging the outsourcing of about 2,000 jobs by the airline. In August 2020, Qantas revealed it would be outsourcing its ground handling operations at 10 Australian airports to third party contractors, and as a result, 1,683 employees lost their jobs. It found Qantas' decision to outsource the baggage-handling and cleaning jobs was in breach of the Fair Work Act. [Specifically, Qantas violated section 341B of the Fair Work Act, which protects employees' rights to bargain and take protected industrial action.] Qantas appealed that decision, but the Full Federal Court on Wednesday dismissed the airline's attempt to overturn a ruling that it sacked workers illegally. Qantas says it will be seeking to appeal the judgement by the Full Federal Court to the High Court. "Qantas has always said the decision to outsource our ground handling function was based on lawful commercial reasons in response to the unprecedented impact of the COVID crisis," the company said in a statement. "Prior to the pandemic, Qantas was actively recruiting into its ground handling function and investing in new equipment — a sign that we had no intention of outsourcing."

…In December, the Federal Court rejected TWU's application for reinstatement of workers' jobs. The Federal Court judge found that if the affected employees were reinstated, Qantas would, as soon as it was legally possible, retrench them. The Full Federal Court judges agreed, and rejected TWU's cross-appeal that the workers should be reinstated. The TWU is now calling for a substantial compensation package for workers. It also has called on the Qantas board to sack its chief executive, Alan Joyce, and the key decision-maker in the outsourcing case, domestic and international chief executive Andrew David. "Through unity, resilience and determination, Qantas workers have achieved a huge victory," TWU national secretary Michael Kaine said. "After a horror 18-months having lifelong careers savagely and illegally ripped away from them, workers stood tall and took on one of the harshest and most powerful companies in the country. Today those workers have been heard, vindicated, and celebrated for their courage. Qantas executives deliberately targeted and attacked workers and broke the law in sacking them to prevent them exercising their rights."

But Qantas said the airline had three clear reasons to outsource jobs during pandemic disruptions in 2020. These included using specialised ground handling companies that could save Qantas more than $100 million a year to use as part of its recovery from COVID, removing the need for Qantas to spend $80 million over five years on necessary ground handling equipment like tugs and baggage loaders, and allowing resources to be better matched with fluctuating levels of demand. It said the TWU had been giving its members false hope about getting their previous jobs back, "when reinstatement was always unworkable". It said the outsourced jobs were being done by companies that "perform the same function for most other airlines in Australia and most airlines worldwide". It said the recent Easter incident that saw passenger travel disrupted due to ground handlers being hit by COVID-related absences, would have been the case if this work was still done by Qantas employees. "We're seeing baggage handling largely return to normal as COVID case numbers peak and as close contact rules have now changed," the airline said.

Questions

1. **Explain how the 'sacking' of 1,683 may have helped to reduce Qantas' costs of production.**
2. **Explain why the union challenged the outsourcing of Qantas jobs. In your answer, refer to the wages and conditions of workers in the industry.**
3. **Describe the justification provided by Qantas for its outsourcing decision. In your answer, refer to the impact on consumers.**

The **gig economy** covers those economic transactions where the buyers and sellers of services come together via digital platforms or marketplaces. The common examples of services provided in the gig economy include ridesharing services (such as Uber), delivery services (such as Deliveroo) or other personal services where individuals agree to provide a specific service on demand (such as in graphic design, web development or even trades such as household maintenance and/or repair). The gig economy has provided flexibility to both sides of the labour market. On the one hand, it enables individuals to supply their skills to the marketplace in a flexible and efficient way, without the need to enter into more formal employment contracts. On the other hand, it enables businesses to tap into the market for particular types of labour services, on demand, and without the additional costs traditionally associated with the employment of labour. It also provides benefits for consumers who are able to directly source the services provided by 'workers' in the gig economy without the need to enter into relationships with larger and less flexible organisations. For example, the gig economy has made it easy for individuals to supply their services via various platforms and is particularly suitable to those who neither require nor desire full-time employment with one employer. However, some businesses attempt to cut costs by reclassifying (or re-engaging) parts of their workforce as independent contractors when in fact the nature of the relationship is much closer to a typical employer/employee relationship. The Australian government via Fair Work Australia (or the **FairWork Ombudsman**) are quite active in ensuring that companies do not enter into 'sham contracting arrangements' that represent a clear breach of Australian employment laws. [See Application Exercise 7f]

Application Exercise 7f: Employees or independent contractors?

Read the following hypothetical examples relating to labour services provided in the digital economy and answer the questions that follow.

Henry uses his own motor vehicle to provide ride sharing services via several ride sharing platforms, such as Uber, Ola and Didi. He has set up as an individual contractor, as requested by these platforms, after obtaining an Australian Business Number (ABN). He logs into the platforms when he feels like working, is allocated jobs via the platform apps and gets to keep 75% of all receipts. Henry understands and accepts that he is classified as an independent contractor and knows that, in the event of an illness or injury, he will not be paid sick leave nor will he be entitled to receive any of the other benefits that are attached to a more typical employment relationship - such as carers leave and superannuation benefits. To protect himself in the event of illness or injury, Henry has decided to purchase income protection insurance on the private market. Overall, despite the extra costs of buying this insurance and the absence of other standard employee benefits, he is quite happy with this arrangement. He loves the flexibility and freedoms attached with his current type of work and never wants to return to the traditional employment sector, where he worked as a lending officer with one of the major banks.

Sam performs driving services for a food delivery company, such as Deliveroo. She was asked to obtain an ABN before commencing work for the platform and is required to work a minimum of three 4 hour shifts per week. Sam has no flexibility to choose when she works and must find another driver within the company to take on any shift that she cannot fill. Sam uses an E bike provided by the company, gets paid per delivery and is required to wear a company uniform. Sam must receive approval from the company if she wants to take any time off, but she is not entitled to any penalty rates associated with late night or weekend work. Sam is also not entitled to any of the other benefits a typical employee would receive, such as sick leave and superannuation benefits. She is surprised to learn that the company does not consider her an employee and instead considers her to be an independent contractor.

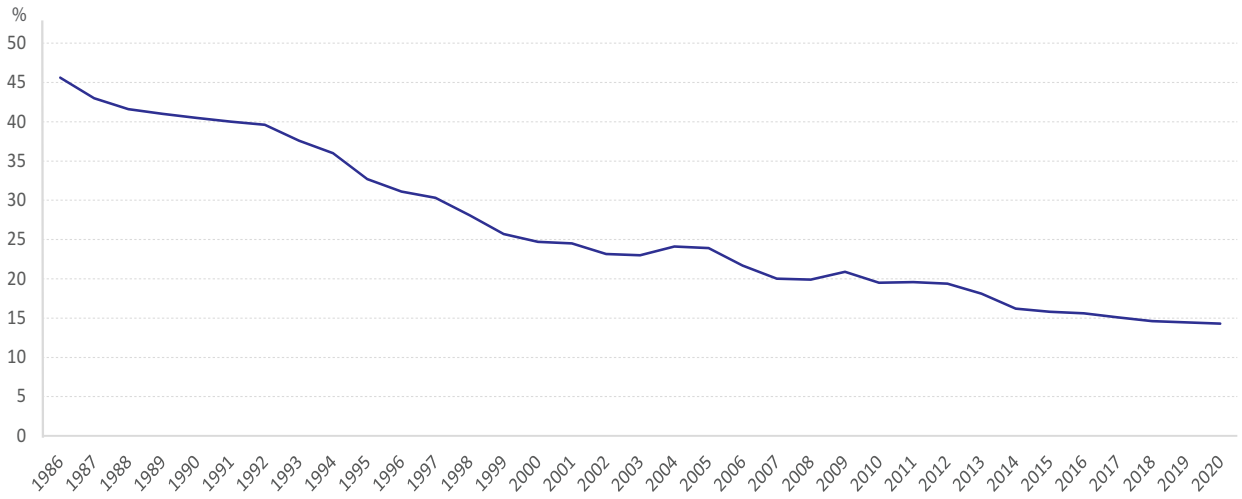
Questions

1. **Describe the relationship between Henry and the ride sharing platforms.**
2. **Describe the relationship between Sam and the food delivery company.**
3. **Identify which of the two types of relationships described above are more likely to be considered an employment relationship. Justify your choice, including reference to indicators that suggests that an employment relationship exists.**
4. **Based on the information provided, outline which of the two (Sam or Henry) are likely to be most content with their current 'employment' relationship.**
5. **Do you believe that the relationship between Sam and the food delivery company should be challenged in the courts. Justify your reasoning.**

Changing levels of unionisation

Chart 7.3 below highlights the declining rate of **union** membership over time, falling from 45.6% of all employees in 1986 to 14.3% in 2020.

Chart 7.3
Union Membership Australia
(% of employees)



The major factors behind the falling rate of **unionisation** over time include the following:

- The increased use of part-time and casual workers who are traditionally less likely to be members of unions compared to full time/permanent employees.
- The decline of industries that were heavily unionised, in particular the declining output of Australia's manufacturing sector as a result of changes to the structure of the Australian economy since the 1990s.
- Changes to government laws which ensured that compulsory unionism was made illegal.
- The general deregulation within labour markets, including the move away from the more centralised setting of wages towards a system that is more flexible and where wages and conditions are determined more at the enterprise or workplace level.
- The growth in the services sector of the economy which traditionally is lowly unionised.
- The growth in female employees as a proportion of the workforce, who are historically less likely to be members of a union.
- The growth in the use of and acceptance of more flexible workplace arrangements, including the rise of the digital economy and the contracting out of labour services.

Study tip

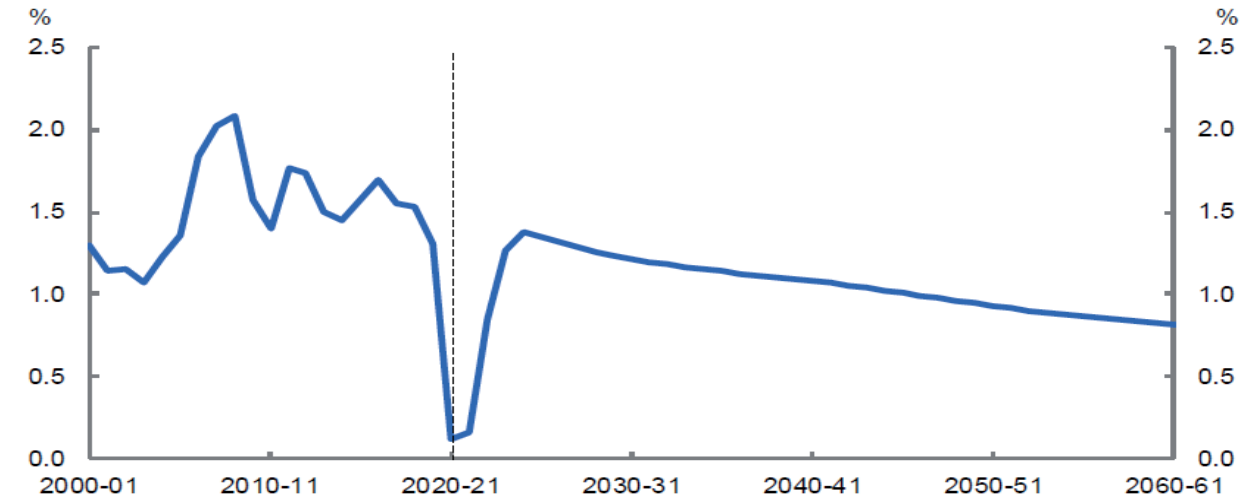
Students should recognise the inherent trade-off that exists between efficiency and equity (or fairness) in the context of unionisation. To the extent that unions are seen as an impediment to labour productivity (e.g. via industrial disputes that they may organise during wage negotiations), then any decline in unionisation helps to boost efficiency, but it will come at the expense of equity if it leads to an erosion of workers' rights and/or a reduction in wages.

Given that unions are typically established to protect or advance the **wages and conditions** of workers, it can be argued that the declining rates of union membership ultimately leads to a decrease in the bargaining power of employees and an erosion of wages and working conditions over time. For example, some commentators note that low union membership rates are a factor that explains the slow wages growth (and declining real wages) experienced in Australia over the recent past. While research conducted by the RBA in 2019 suggested that declining union membership was not a factor to explain slow wages growth, it is hard to ignore the negative relationship that is likely to exist between continuing reductions in unionisation and the general bargaining power of employees. However, on the flip side, to the extent that lower unionisation helps to facilitate speedier and more efficient negotiations between employers and employees at the workplace level, it can help to raise labour productivity and therefore produce supply side benefits to the economy.

The ageing population and demographic change

The latest **Intergenerational Report (2021)** highlighted that annual population growth will fall significantly over the next 40 years. Chart 2.1 from the Report is reproduced below and it shows population growth fell from an average growth of 1.3% over the past 40 years and is projected to fall to 0.8% by 2060-61. The chart also highlights the impact of the closure of international borders due to COVID-19, where Australia experienced a period of net negative overseas migration during 2020-21, indicating that more people left Australia (emigration) than entered Australia (immigration).

Chart 2.1 Australia's population growth



Source: ABS National, state and territory population, September 2020, and Treasury.

This decline in population growth is expected to be problematic for Australia given the ageing population that is being caused by increased **life expectancies** and falling **fertility rates**. Australians over 65 are projected to more than double by 2060-61 to 8.9 million people, resulting in the proportion of the population over 65 increasing from 16% in 2020 to 23% by 2060. As a consequence, the participation rate is expected to fall from its current rate of 66.4% (July 2022) to 63.6% by 2060-61.

This has negative consequences for businesses operating in the labour market because it will contribute to skills shortages, which negatively impacts on labor productivity and **real unit labour costs** for businesses. To the extent that the government will be under increasing pressure to support the ageing population in the future, it will lead to higher taxes and/or an increased budget deficit (and the associated increase in interest rates that will most likely flow from the growth in government debt). However, while workers in the future will no doubt be burdened by higher taxes (or relatively high interest rates), they will be in a better bargaining position given the general shortage of labour that is likely to exist and the upward pressure on wages that is likely to occur.

Migration and population growth

The Intergenerational Report also highlights that, despite both the ageing population and the temporary slowdown during 2020-21 (due to COVID-19), Australia's population is still projected to grow. Indeed, the population is projected to grow faster than most other developed countries and reach 38.8 million in 2060-61. This is consistent with Australia's **population policy** over time, which has been to actively encourage an increase in the size of the Australian population. Past policies have included those targeted at natural increase (e.g. the subsidisation of child birth via a Baby Bonus in the mid 2000s) as well as a host of other 'family friendly' policies that effectively reduce the cost of raising children (e.g. parental leave schemes and family tax benefits).

The growth in the size of the population over time will depend on a combination of natural increase (births minus deaths) and **net overseas migration (NOM)**. Despite measures introduced by the government to encourage growth in family size, Australia has been experiencing declining fertility rates. This, combined with an increase in life expectancy, has resulted in the rate of natural increase becoming a less significant factor behind Australia's population growth compared

to NOM. Over the last decade, NOM made up 60% of the growth in the population, but it is expected to increase to 74% by 2060-61, highlighting the influence and importance of Australia's **immigration policies**.

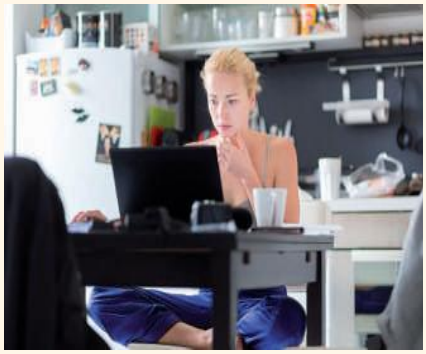
Despite the closure of Australian borders between 2020 and 2021 resulting in migration levels effectively falling to zero, it is clear that migration will continue to be the main driver of population growth in the years to come. Migration to Australia comes in two main forms: **permanent migration** and **temporary migration**. The permanent migration currently centres around 190,000 migrants being allowed to permanently settle in Australia and it includes three major categories: Skilled, Humanitarian and Family, with the Skilled program representing the largest intake (approximately 68%) of all immigrants. In addition to the permanent program, an uncapped number of temporary migrants can enter the country on **Temporary Visas**, such as the Temporary Skills Shortage Visas enabling employers to address labour shortages by bringing in skilled workers on a short to medium term basis. The number of temporary visa holders allowed into the country is not fixed and will depend primarily on conditions existing in labour markets. For example, in the presence of a very tight labour market, where it is clear that skills shortages exist in certain occupations, the government would release more temporary visas to those migrants with the skills in demand.

Generally, an effective and genuine permanent skilled migration, particularly when combined with access to those with temporary skills visas, helps to alleviate **capacity constraints** which burden businesses. This exerts downward pressure on business costs, helps to promote employment and leads to general economy wide benefits. However, the ability for businesses to source relatively cheap and abundant offshore labour reduces pressure on wages and contributes to the slower wages growth. In this respect, it can be relatively costly for those workers whose skills are in short supply and who would otherwise be in a powerful bargaining position to negotiate higher wages.

Review questions 7.5

1. Explain why unemployment was high during the early 1990s as well as during 2008.
2. Define labour hoarding and explain how this impacts on unemployment relative to underemployment.
3. Account for the difference between the effective rate of unemployment and the actual rate of unemployment during the COVID-19 recession.
4. Explain why the labour force participation rate fell heavily during 2020.
5. Distinguish growth in nominal wages from growth in real wages .
6. Outline whether the acceleration of inflation during 2022 was a result of the fall in the unemployment rate to as low as 3.4%.
7. Describe the implications for NAIRU of a 3.4% rate of unemployment that occurs alongside slow wages growth.
8. Explain why the participation rate for females has increased since 1978.
9. Explain why the participation rate for males has decreased since 1978.
10. Explain why the average wage for women is lower than that paid to men.
11. Identify and describe one advantage and one disadvantage associated with the increased casualisation of the Australian labour force.
12. Explain why businesses have been increasingly willing to outsource their labour requirements.
13. Describe the implications for job security in the presence of casualisation and outsourcing.
14. Define the gig economy.
15. Describe one cost and one benefit for both businesses and workers engaged in the gig economy.
16. Describe the trend movement in union membership since the late 1980s and outline three factors that may have contributed to this trend.
17. Describe the possible relationship between declining union membership and wages growth.
18. Explain what is meant by Australia's ageing population problem and describe how this is expected to have negative economic consequences.
19. Define net overseas migration (NOM) and explain why this decreased during 2020-21.
20. Outline what is expected to happen to NOM over the next 40 years. In your answer, refer to Australia's immigration policy.
21. Describe a cost and benefit associated with Australia's relatively generous skilled migration program.

Application Exercise 7g: Is working from home the new normal?



Read the edited article by Daniel Ziffer published on ABC News (5 Jan 2022) titled 'Work from home is the new normal as employers struggle to make the daily grind work'. [The unedited version can be accessed at *https://www.abc.net.au/news/2022-01-05/force-the-workforce-back-to-office-or-wfh-forever/100718234.*]

For many office workers, it's back to the grind. But it's not exactly back to the office. And it probably won't be. We're coming up on two years since COVID-19 forced a work-from-home revolution as governments asked people to stay away from public spaces to slow the spread of the disease. Even when outbreaks waned, workers have largely declined to return to office desks full-time. Companies may want to force their workforce back into a 2019 straight-jacket model of 9-to-5, Monday to Friday, at the desk. But with extreme labour pressure on employers – making it essentially a seller's market for people interested in a new job – it's not going to happen.

From baristas to horse trainers, childcare workers to masseuses, most Australians work in fields that will require them to turn up, not just log in. If you're one of the millions of 'frontline' workers who need to physically be at your workplace to do your job, your life probably isn't going to change much. For that vast majority, the only change they'll likely see is busier suburban cafes, more people ploughing the walking track at lunchtime and insane urban congestion as people stay close to where they started the day. But around 35 per cent of jobs do have aspects that allow them to be done at home, according to a report by the Productivity Commission. The kinds of jobs tend to be better-paid and more likely to be full-time, the workers tend to be female.

For those people – a huge percentage of the masses that flowed through our central business districts daily in pre-COVID times – the office is now just one place where they can work. And it's not particularly attractive. Australians like to project an image of rural charm and rugged adventurousness, but the reality is we are one of the most urbanised nations on earth. Our three largest cities – Sydney, Melbourne and Brisbane – are larger or as large as national capitals like Madrid, Berlin and Amsterdam, but without the underground railways, dense living, '20-minute villages' and infrastructure that make them work. As a result, an ever-burning city fringe provides the only affordable housing. But until now they've largely been dormitories, without jobs. The price paid for a smaller mortgage is extremely long commutes – generally to the central business district (CBD) – on stretched or non-existent public transport that wasn't planned for a city of that size. In Madrid, over 75 per cent of the residents live less than 600 metres away from a metro station. Yet each of our major capital cities have public transport deserts where decades have elapsed as residents wait for long-promised infrastructure.

The HILDA (Household, Income and Labour Dynamics in Australia) survey is an epic research project from the University of Melbourne that examines how we live our lives. It won't surprise you it finds a long commute to work hits people's satisfaction with their jobs. "Those who spend a long time getting to and from work each day are more likely to be dissatisfied with their job overall, as well as with their working hours, flexibility to balance work and non-work commitments, and salaries," it reads. Here's the kicker. "In addition, people who have a longer daily commute are more likely to expect to leave their jobs in the next 12 months than those who spend less time getting to and from work." No shock. It brings us to now: as office workers start to log back on, and creep into the office after the Christmas and New Year break. Since the start of the pandemic, surveys of office workers have been remarkably consistent. Most want to work two or three days per week in the office. Some want zero, others five, but most are at two or three. They'll likely get their wish.

Loud lobby groups from the property industry have been vocal in calling for public servants to be forced back to the office, to reinvigorate flagging CBDs. Interesting, isn't it? The public service is a big boss, with Commonwealth, state and local government having just over 2 million employees across the nation. But that's just 2 million out of 13 million employees in the nation, and most public servants work in health and education (hospitals and schools) well outside of the centre of big cities. What big landlords want is to see people in town. But they know that private employers can't and won't compel a newly-empowered workforce – with employees in hot demand – back into the office against their will. That's because it's almost impossible to incentivise a worker to put their child in 'before school care', drive to somewhere close to their train station, jam in to the carriage, commute for an hour, take the lift up to their half-empty office and do it all in reverse at the end of the day.

To listen to some tell it, the fate of the nation is on their shoulders. They're meant to make their life more difficult, more expensive and less efficient for … what? The benefit of sandwich shop owners in the city? The situation is unfortunate for city traders and the landlords who are the loudest voices in the push. But why should individual workers make their lives harder just because some people weighed their investments too heavily into CBD office towers and retail? …What will bring people back to the city, and smooth out the work-from-home trend, are the same things that have driven people to congregate together in metropolises for hundreds of years. The collision of ideas. The possibility of advancement. The desire to be in the room where and when it happens. Expect to see some redundant buildings turned over at low cost to artists, schools and small-scale manufacturers long since driven out of the city. Expect Mondays and Fridays to be pretty quiet for the foreseeable future. People will come back. For some that will manifest in so-called 'anchor days', when it's compulsory for a particular unit of the business to make it in person, or irregular 'Team Tuesday' when groups will meet up to share ideas and be among their colleagues. But five days a week, 9AM-5PM? That's like 2019. Gone.

Questions

1. **In the context of labour markets, what is meant by a seller's market.**
2. **Outline how COVID-19 has contributed to remote working.**
3. **Compared to European cities, explain why Australia's major cities are more conducive to remote working.**
4. **Identify those groups who are keen for workers to return to the city and explain why they have a vested interest to see the end of remote working.**
5. **To what extent do you think that remote working will decrease in the future? Explain your reasoning.**

7.6 Government policies influencing labour markets

There are a host of government policies or laws that influence Australia's labour markets. The overriding objective behind government intervention in the operation of labour markets is to promote greater **efficiency** and **fairness** (or **equity**) above that which would exist in the absence of **government intervention**. Generally, efficiency will be improved by government policies that are designed to increase productivity of workers, or policies that help to ensure that labour markets do a good job of directing labour to those employers who gain the most from the skills provided. Theoretically, the labour market will be most efficient if every single person offering labour services in the economy is employed in jobs such that the net benefits to all parties is maximised. This means that any alternative allocation of labour across the economy will result in at least one of the parties being made worse off. Of course, this scenario will never exist in reality, but it is a useful concept that guides policymakers.

In terms of fairness and equity, there is typically a conflict between efficiency and equity such that attempts to achieve a more efficient outcome in the economy can come at the expense of equity, and attempts to achieve a more equitable or fair outcome can come at the expense of efficiency. This is no different in the context of labour markets. On the one hand, government policies that had been designed to improve the efficient operation of labour markets, such as the move away from a **centralised wages system** (where wages and conditions for most workers were determined at a centralised/government level) to a more de-centralised or deregulated system based on **enterprise or workplace bargaining**, have led to outcomes that some describe as inequitable given the impact on unemployment and unequal wage outcomes. On the other hand, those policies designed to achieve a more equitable outcome, such as laws related to **minimum wages** and **unfair dismissals**, can negatively impact on productivity and efficiency.

In the section below, we will cover some of the key government policies that attempt to improve the way that labour markets work in Australia in terms of the outcomes for both efficiency and equity.

Fair Work Act

The **Fair Work Act 2009 (FWA)** is the main law governing the relationship between employers and employees in Australia. The FWA sets out the rights and responsibilities of employers and employees under the national workplace system and is administered by the **Fair Work Commission** and the **Fair Work Ombudsman**. At the core of the FWA are the protections put in place via the minimum terms and conditions, such as the right to minimum rates of pay and leave entitlements, the right to be free from unlawful discrimination, the right not to be unfairly dismissed and the right to be free from undue influence or pressure in negotiating individual arrangements. Some of these and other provisions contained in the FWA are summarised below

Discrimination and adverse actions

It is unlawful for an employer to take adverse action against an employee or prospective employee on the basis of race, colour, sex, sexual orientation, age, physical or mental disability, marital status, family or carer's responsibilities, pregnancy, religion, political opinion, national extraction or social origin. **Adverse actions** against employees also includes those that are designed to prevent employees from engaging in industrial activities, such as an employee who is trying to set up a union at a particular workplace or an employee who is doing research into whether their employer is paying the legal minimum wage. Adverse actions also include attempts by an employer to coerce an employee or exert undue influence or pressure, which can include threatening to demote or fire an employee if they refuse to vote for an enterprise agreement.

Bullying and sexual harassment

The Fair Work Commission (FWC) is the national workplace relations tribunal that deals with applications to stop bullying and sexual harassment at work under the FWA. **Bullying** is defined as a person or group of people repeatedly behaving unreasonably towards another worker or group of workers such that the behaviour creates a risk to health and safety. It can include teasing or playing practical jokes or pressuring someone to behave inappropriately at the workplace. **Sexual harassment** occurs when a worker or group of workers makes an unwelcome sexual advance or request for sexual favours or engages in other unwelcome conduct of a sexual nature in relation to another worker.

Minimum wages

The **minimum wage** refers to the lowest legal wage that can be paid to workers in Australia. For most employees, the minimum wage is set by the award that covers their industry or occupation, where an award is a legal document setting out the wages and conditions of employees. However, for those employees not covered by awards, the FWA establishes a National Minimum Wage that is reviewed and adjusted each year by the Fair Work Commission. As at 1 July 2022 the National Minimum Wage is $21.38 per hour or $812.60 per week for a full-time, adult employee. [See Activity 7h Does raising the minimum wage kill jobs?]

Application Exercise 7h: Does raising the minimum wage kill jobs?

Read the edited article written by Assistant Professor of Economics, Veronika Dolar, that appeared in The Conversation on 18 October 2021. [The unedited version can be accessed at *https://theconversation.com/does-raising-the-minimum-wage-kill-jobs-the-centurylong-search-for-the-elusive-answer-shows-why-economics-is-so-difficult-but-data-sure-helps-157575.]*

For decades it was conventional wisdom in the field of economics that a higher minimum wage results in fewer jobs. In part, that's because it's based on the law of supply and demand, one of the most well-known ideas in economics. Despite it being called a "law," it's actually two theories that suggest if the price of something goes up – wages, for example – demand will fall – in this case, for workers. Meanwhile, their supply will rise. Thus, an introduction of a high minimum wage would cause the supply of labour to exceed demand, resulting in unemployment. But this is just a theory with many built-in assumptions.

Then, in 1994, David Card, an economist at the University of California, Berkeley, and one of this year's Nobel winners, and the late Alan Krueger used a natural experiment to show that, in the real world, this doesn't actually happen. In 1992, New Jersey increased its minimum wage while neighboring Pennsylvania did not. Yet there was little change in employment. When I discuss their work in my economics classes, however, I don't portray it as an example of economists providing a definitive answer to the question of whether minimum wage hikes kill jobs. Instead, I challenge my students to think about all the ways one could answer this question, which clearly cannot be settled based on our beliefs. But rather, the answer requires data – which in economics, can be hard to come by. … Economists use [economic] models to answer important questions, such as "Does a minimum wage cause unemployment?" …Proponents argue that a higher minimum wage helps create jobs, grow the economy, fight poverty and reduce wage inequality. Critics stress that minimum wages cause unemployment, hurt the economy and actually harm the low-income people that were supposed to be helped.

Most students in my introductory microeconomics class can easily show, using the standard supply and demand model, that an increase in the minimum wage above the level that the market sets on its own should drive up unemployment. In fact, this is one of the most commonly used examples in introductory economics textbooks. However, this result assumes a perfectly competitive labour market in which workers and employers are abundant and employees can change jobs with ease. This is rarely the case in the real world, where a few companies frequently dominate in what are known as monopsonies. And so others theorised that because monopsonistic companies had the power to set wages artificially low, a higher minimum wage could, perhaps counterintuitively, prompt companies to hire more workers in order to recover some of their lost profitability as a result of the increased labour costs. How can economists tell which of these two theories may be right? They need data.

Studying the real world is difficult, and it's constantly changing, so it is not easy to obtain all the relevant evidence. Unlike in medicine or other sciences, economists cannot conduct rigidly controlled clinical trials, a method vacinologists used to test the efficacy of COVID-19 vaccines. Due to financial, ethical or practical constraints, we cannot easily split people into treatment or control groups – as is common in psychology. And we cannot randomly assign a higher minimum wage to some and not others and observe what will happen, which is how a biomedical scientist might study the impact of various treatments on human health. And in studying the minimum wage, we cannot simply look at past times when it was increased and check what happened to unemployment a few weeks or months later. There are many other factors that affect the labour market, such as outsourcing and immigration, and it's virtually impossible to isolate and pin down one factor such as a minimum wage hike as the cause.

This is where the pioneering work of natural experiments like the ones Card and Krueger have used over the years to study the effects of raising the minimum wage and other policy changes comes in. It began with their 1994 paper, but they've replicated the findings with other studies that have deepened the amount of data that shows the original theory about the minimum wage causing job losses is likely wrong. Their approach isn't without flaws – mostly technical ones –- and in fact economists still don't have a clear answer to the question about the minimum wage that I posed earlier in this article. But because of Card, Krueger and their research, the debate over the minimum wage has gotten a lot less theoretical and much more empirical. Only by studying how humans actually behave can economics hope to make meaningful predictions about how a policy change like increasing the minimum wage is likely to affect the behaviour of the economy and the people living in it.

Questions

1. **Use a demand and supply diagram to illustrate how, theoretically, a minimum wage can create unemployment.**
2. **Briefly outline the nature of the experiment conducted by Nobel Prize winners Kruger and Card and discuss its implications.**
3. **Explain how a high minimum wage can help to create jobs and fight poverty but also cause unemployment to increase. Refer to the diagram that was created to answer Q1.**
4. **Explain why it is reasonable to assume that most labour markets are not perfectly competitive.**
5. **Explain what is meant by a monopsonist company and outline why such a company might want to employ workers when minimum wages are introduced.**
6. **Outline why it is difficult to determine with certainty if minimum wages do indeed cause job losses.**

Unfair dismissal

The Fair Work Commission defines **unfair dismissal** as when an employee is dismissed or fired from their job in a harsh, unjust or unreasonable manner. It is not, for example, considered an unfair dismissal if an employee is fired because they have not performed to the level required by the employer or if they have performed inappropriately at the workplace, such as constant aggressive or menacing behaviour towards other employees. In contrast, it is deemed unfair to dismiss an employee if the dismissal is an extreme response to a situation (e.g. firing an employee who arrives late to work because they were involved in an accident that delayed their arrival) or if the employer is basing the reason for the dismissal on evidence that is clearly not reliable (e.g. an employee is fired for an alleged theft at the workplace based on hearsay despite the employee being away from work at the time of the theft).

Over the years, governments have made changes to unfair dismissal laws to ensure that an appropriate balance is achieved between the rights of employers and the rights of employees. This is in recognition of the fact that laws that are too onerous on employers run the risk of reducing economic efficiency and decreasing the incentive to take on employees. For example, if the laws make it too difficult for employers to remove unproductive or disruptive employees, it can contribute to a less productive workplace and create incentives for the employer to reduce the size of its labour force and instead substitute into capital (e.g.robotics or machinery) over time. However, if the laws are too onerous on employees and shift the power balance too heavily in favour of employers, then it has negative implications for equity and fairness. Currently, employees need to be employed by an employer for a minimum of six months before they are eligible to apply for unfair dismissal.

Immigration policy

Australia's policies in relation to **immigration** were covered in the previous section, where reference was made to Australia welcoming immigrants via the permanent immigration program (currently set at 190,000 per year) and the temporary visa program, whose numbers are variable and depend on the **skills shortages** existing in Australia at any given time. Given that Australia's immigration programme deliberately targets skilled migrants, it becomes an example of a government policy that is designed to improve labour market outcomes. To the extent that employers will have access to labour that would otherwise be in short supply, skilled immigration helps to boost labour productivity and contribute to employment growth in Australia. However, as noted earlier, it can have negative implications for wages, as the bargaining power of workers can be eroded by the increased supply of foreign labour.

Policies to improve the quality of human capital

The government is quite active in delivering policies that seek to improve the quality of **human capital**. This is another way of saying that the government introduces policy initiatives that attempt to improve the skills of labour force participants. This not only makes these individuals more more productive and employable, raising the demand for labour, it helps to reduce the incidence of **structural unemployment** over time. Every year, in the government's annual budget, there will be examples of new initiatives that either involve direct government spending on training programs (including spending on education and training more generally), or the provision of **subsidies** and/or **tax concessions** to encourage greater businesses spending on training and skills development of its workforce. For example, initiatives from the most recent 2022-23 Budget include:

- Nearly $1 billion over 5 years from to introduce a new Australian Apprenticeships Incentive System from 1 July 2022, providing support to employers and apprentices in priority occupations
- Approximately $370 million to extend the Boosting Apprenticeship Commencements and Completing Apprenticeship Com-mencements wage subsidies by 3 months to 30 June 2022, to further support employers taking on and retaining new appren-tices
- approximately $50 million over 5 years to deliver the new ReBoot initiative and support Workforce Australia to support up to 5,000 disadvantaged young Australians to develop employability skills, providing a pathway to employment services and training opportunities.

The provision of government support to private sector businesses who spend on training and education of employees is in part a recognition that without government intervention there would be an under-investment in training and education. This is because the 'full' benefits to be enjoyed from any given level of investment in training and education by businesses will not be captured by the business as some benefits will accrue to third parties (e.g. other businesses) if

or when the trained employee moves from employer to employer. [This relates to **market failure** in the form of **positive externalities** that will be explored in VCE Unit 3 Economics.]

Stimulus policies of government

As we covered in Chapter 2, the government will also use **fiscal (budgetary) policy** and **monetary policy** to stimulate the economy and reduce the rate and level of cyclical unemployment. For example, during the recent COVID-19 induced recession of 2020, both monetary and budgetary policies became very expansionary with the intention of stimulating aggregate demand and supporting both economic growth and employment. Both policies were successful in stimulating the **derived demand for labour** above the level that would otherwise have occurred, which ultimately boosted employment growth and prevented the unemployment rate from climbing to excessive levels. This macroeconomic demand management policy intervention therefore helped to improve labour market outcomes in Australia over this time.

Workforce Australia

Workforce Australia is a government body that has been established to help Australians find and keep a job, change jobs or create their own job. It is designed to both support employers with recruiting 'the right' workers for their business (e.g. those workers possessing the requisite skills for any given job vacancy) as well as help employees find the right job. To the extent that Workforce Australia is able to achieve a more efficient allocation of labour resources across industries, it has the potential to boost productivity, reduce the length of **frictional unemployment** and improve outcomes for workers.

Outcomes for First Nations Australians

Research has shown that **First Nations Australians** are relatively disadvantaged in Australian labour markets and are much more likely to be unemployed then other Australians. Part of the explanation lies in the fact that Indigenous Australians are, on average, less likely to complete a formal education and/or attend tertiary institutions, which reduces skill levels and makes them less marketable to employers. It is also true that First Nations Australians are more likely to experience social disadvantage characterised by poorer health and living in areas that provide relatively limited labour market opportunities. Indigenous Australians are also more likely to experience discrimination and have greater interaction with the criminal justice system. In light of the disadvantages experienced by Indigenous Australians, both state and federal governments have been active in rolling out initiatives that attempt to provide support and improve labour market outcomes for this group of Australians. This includes government subsidies to businesses and groups that are prepared to train and/or employ Indigenous Australians as well as develop training and education programs that specifically target Indigenous Australians. For example, the Australian Government announced in the 2021–22 Budget a commitment to develop the Indigenous **Skills and Employment Program** that is designed to close the gap between the Indigenous and non-Indigenous employment. The program is designed to provide greater economic opportunities for Indigenous Australians and better connect them to jobs, targeted skills acquisition and career advancement opportunities.

Other examples of government intervention in labour markets

There are a host of other government laws or interventions at both the national and state levels that are designed to achieve more efficient or equitable labour market outcomes. This includes those laws related to **occupational health and safety, workplace safety, superannuation, equal opportunity** and maximum hours worked. In the main, these examples of government intervention are design to achieve fairer or more equitable labour market outcomes and help achieve this by improving the physical and or mental well-being of workers beyond that which would have existed in an unregulated labour market.

Review questions 7.6

1. Outline the overriding objective behind government intervention in the operation of labour markets.
2. Explain how the conflict between efficiency and fairness influences labour market policies.
3. Distinguish a centralised wages system from one that is decentralised.
4. Describe how the Fair Work Act (2009) helps to reduce discrimination and bullying in workplaces.
5. Describe the purpose of unfair dismissal laws and explain how they influence the balance between equity and efficiency.
6. Outline how Australia's immigration policy can improve labour market outcomes.

7. Describe one initiative that has been, or might be, introduced by the federal government to improve the quality of human capital.
8. Describe how an increase in the quality of human capital can improve labour market outcomes.
9. Outline how expansionary monetary and fiscal policy have been used to protect employment in Australia.
10. Describe how Workforce Australia can help to reduce frictional unemployment.
11. Explain how First Nations Australians may experience disadvantage in labour markets and explain how governments have attempted to address this disadvantage.
12. Identify some other ways that governments attempt to achieve more efficient or equitable labour market outcomes.

Application Exercise 7i: Universal basic income

A universal basic income (UBI) is a concept gaining increasing momentum internationally as an alternative to current income support schemes (e.g. unemployment benefits or JobSeeker allowance) and it has significant implications for labour markets.

The general concept involves the provision of a basic level of income to adults, regardless of whether they working or otherwise and the idea has gained new traction following the generous support provided by the federal government during the height of COVID-19 in 2020. At that time, one of the generous support measures included the doubling of the JobSeeker allowance from $275 to $550 per week. While there were reports that it created perverse incentives, including the unwillingness of some part time workers to return to the workforce, it did help others to better prepare (financially) for the workforce, such as undertake training or meet the basic expenses required to prepare for job interviews. So the higher income support payment allowed recipients to do more than simply meet their basic needs.

More generally, a typical UBI would equally be paid to people with jobs and those without and the payment would not be means tested (i.e. it would be paid regardless of the wealth level or wages received by individuals), nor would it come with any conditions (e.g. the performance of mutual obligations that typically apply to welfare recipients). The rate of the UBI would be high enough for the recipient to meet their basic needs without the requirement to source additional income and it would replace existing income support payments (such as pensions and unemployment benefits). The UBI therefore has the potential to make the administration of income support schemes in Australia much easier, but it has negative implications for incentives to work and labour productivity.

The proposal for UBI schemes is not new. In Australia, guaranteed income schemes were proposed in the 1920s and have been periodically debated by policy makers, including the 1970s and 1980s. The debate has resurfaced in the 2020s as the rate of technological change accelerates to the point where there are questions being asked about the ability of the labour market to provide secure and well paid work into the future – work that will generate sufficient income to easily avoid poverty. It is argued by some that the growth in technological change in the future, and the associated boost in productivity and wealth this provides, allows for a re-focus away from work and towards leisure. The UBI will therefore be affordable, lift living standards and achieve more equitable outcomes for society. In contrast, others argue that the threats to workers from the rate of technological change are overstated, and that new opportunities will continue to surface that provide meaningful employment over time. The experience with pandemic payments during 2020 also helped to re-ignite the flame for supporters of a UBI who point to the benefits this provided during the pandemic.

The funding of a UBI would typically come from the tax system and result in higher and/or more progressive income taxes which will negatively impact on incentives and productivity. In addition, the government would need to consider cutting spending programs across the economy, some of which might include the support to vulnerable groups such as those with disabilities and the elderly. Overall, the adoption of a UBI would come at considerable cost, raising taxes for individuals and businesses, which has implications for both labour demand and supply. On the demand side, the demand for labour is likely to fall in line with lower rates of labour productivity growth and a lower derived demand for labour as economic growth is impaired. On the supply side, fewer people will be prepared to supply their services to the labour market given the presence of a higher UBI. It is largely for these reasons that a UBI has not gained broad support in Australia.

Questions

1. **Define a universal basic income (UBI).**
2. **Outline the similarity between a UBI and the provision of JobSeeker during 2020.**
3. **Describe how the doubling of Jobseeker allowance during 2020 created perverse incentives in the labour market.**
4. **Explain how a UBI has the potential to reduce labour productivity.**
5. **Explain how technological change might allow for a re-focus away from work and towards leisure.**
6. **Explain how a UBI might be funded and examine the implications for the labour market.**

7.7 Multiple choice review questions

1. Which of the following factors might motivate people to work?
- a) A need for income to purchase needs and wants
- b) A desire to socialise and meet new people
- c) A desire to build expertise and self-esteem
- d) All of the above

2. The skilled immigration programme is likely to lead to an increase in the rate of economic growth because:
- a) productivity growth should increase
- b) aggregate supply should fall
- c) wage costs should rise
- d) all of the above

3. Labour demand for supermarket workers is generally not dependent upon:
- a) The price and availability of capital
- b) the hourly wage paid to the workers
- c) the salaries of Maths teachers
- d) the productivity of the workers

4. Labour demand for dental assistants would increase if:
- a) the wage paid to receptionists increased
- b) the demand for dentist services increased
- c) the wages paid to dental assistants increased
- d) the price of dental equipment increased

5. The supply of labour is likely to increase if:
- a) there is an increase in school retention rates
- b) there is an increase in the number of people retiring
- c) the government increases the age at which the pension can be received
- d) the government cuts the immigration targets

6. The labour supply for Maths teachers has been lower than the demand for a number of years because:
- a) the equilibrium wage has been too high
- b) the salaries paid to those with Maths skills has been relatively high
- c) The ATAR score for university degrees in Maths teaching have been too high
- d) the salary paid to Maths teachers has been below the equilibrium

7. Net Overseas Migration (NOM) is equal to:
- a) emigration minus immigration
- b) the birth rate minus the death rate
- c) immigration minus the birth rate
- d) immigration minus emigration

8. The unemployment rate measures:
- a) the percentage of the population who have not been able to find a job
- b) the percentage of the working age population who have not been able to find a job
- c) the percentage of the labour force who have not worked more than 5 hours
- d) the percentage of the labour force who have not been able to find a job

Consider the following hypothetical labour force data which is relevant for questions 9 and 10

Employed persons	**800**
Unemployed persons	**200**
Total population over 15	**2,000**

9. Based on the above information the unemployment rate would be calculated as:
- a) 10%
- b) 20%
- c) 25%
- d) 50%

10 Based upon the above information the participation rate would be calculated as

a) 60%
b) 20%
c) 40%
d) 50%

11. The participation rate is likely to increase if:

a) the unemployment rate increases
b) immigration numbers increase
c) subsidies for childcare are reduced
d) the government increases university fees

12. The largest contributor to Australia's population growth in the future is expected to be:

a) skilled immigration
b) a reduction in the number of deaths
c) an increase in the birth rate
d) refugees

13. Cyclical unemployment in Australia is likely to increase if there is

a) a depreciation of the Australian dollar
b) a decrease in the cost of computer technology
c) a recession in China
d) an increase in Australia's annual average rainfall

14. Structural unemployment is unlikely to be caused by:

a) a world recession
b) an increase in the use of technology in the production process
c) a decrease in the cost of labour in India
d) a rise in the gig econony

15. The government might cut its immigration target if:

a) the unemployment rate increases
b) there is a decrease in social unrest around the world
c) the retirement age increases
d) if the economy operates with limited spare capacity

16. The Non Accelerating Inflation Rate of Unemployment (NAIRU) is

a) The rate of inflation that is consistent with a strong rate of economic growth
b) The rate of unemployment below which inflation will start to accelerate
c) The rate of inflation below which unemployment will start to accelerate
d) None of the above

17. Which of the following examples of government intervention in labour markets is most likely to be targeting efficiency rather than equity or fairness?

a) laws to prevent discrimination in the workplace
b) minimum wage is laws
c) unfair dismissal laws
d) tax cuts for businesses investing in training and education

18. Which of the following groups is least likely to have experienced discrimination in Australia's labour market in the past?

a) First Nations Australians
b) Women
c) Migrants
d) Men

19. Which of the following is inaccurate in relation to Australia's labour force statistics over recent years?

a) The participation rate has risen and the unemployment rate has fallen
b) Male participation rates have increased faster than female participation rates
c) The labour force underutilisation rate for July 2022 was 9.4%, made up of 3.4% unemployment and 6.0% underemployment
d) The unemployment rate fell to a low of 3.4% in the middle of July 2022

20. Wages in labour markets are likely to fall if:

a) the demand for labour increases by more than an increase in the supply of labour
b) the demand for labour increases by less than an increase in the supply of labour
c) there is an increase in both the demand for labour and the supply of labour
d) the demand for labour falls and the supply of labour decreases

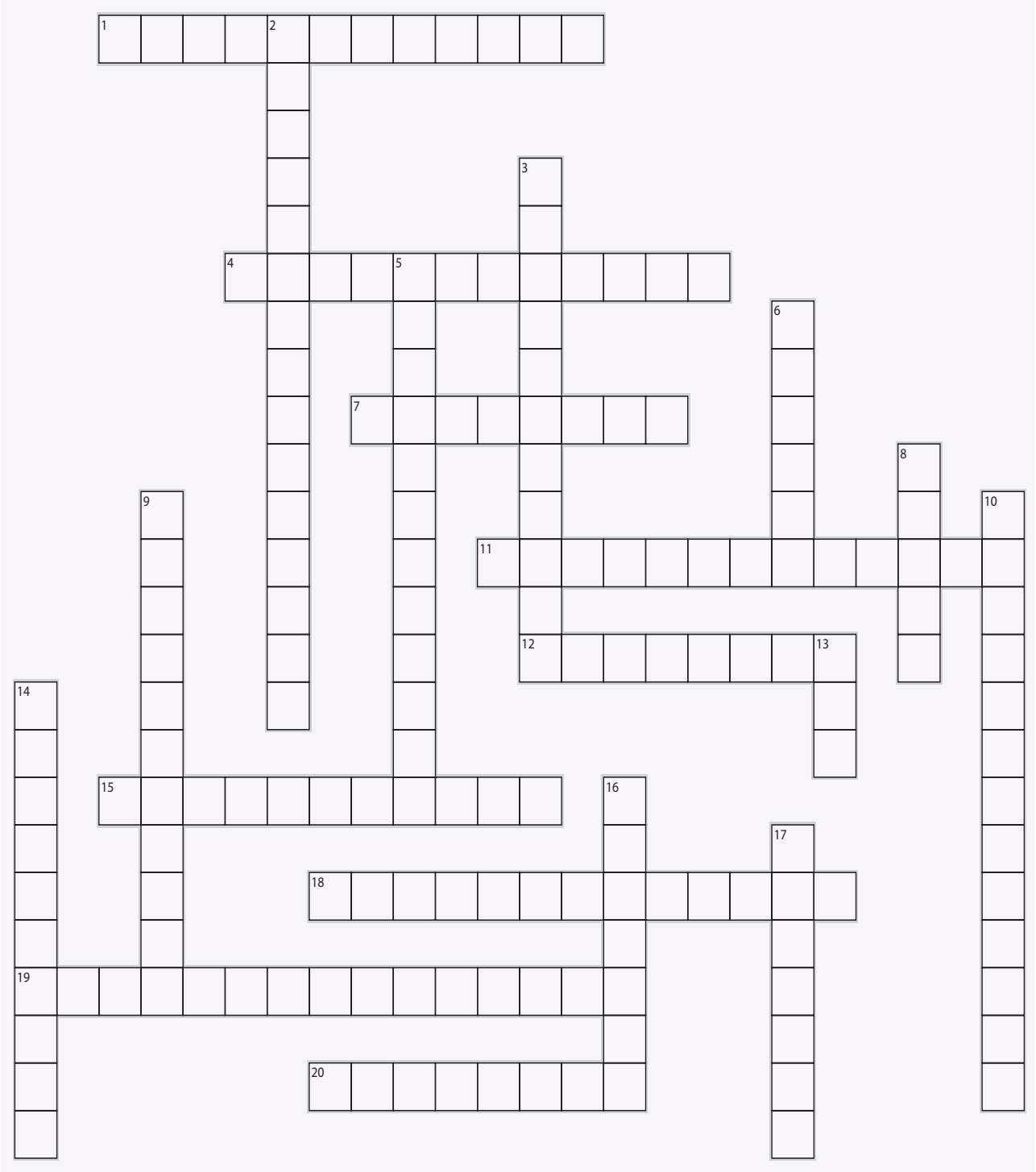
7.8 Chapter crossword puzzle

Across

1. A market for labour services, where buyers and sellers of labour services come together in exchange and where the rate of exchange is the price of labour (2 words)
4. This will increase if workers are able to produce more output per hour
7. Someone who exchanges their labour for income
11. This has occurred in Australia over the past couple of decades and has contributed to a less secure workforce and underemployment
12. An increase in expenditure on this will help to improve the quality of human capital and potentially reduce structural unemployment
15. The government relies on this policy to provide growth in the labour supply and the country's population
18. This rate will increase when the size of the labour force increases relative to the size of the working age population
19. Those who are currently working but who would prefer to work longer hours
20. This is the type of unemployment that is due to a deficiency in aggregate demand

Down

2. These laws seek to prevent the sacking of workers in a harsh, unjust or unreasonable manner (2 words)
3. The main piece of government legislation governing workplace relations (3 words)
5. When someone does not have a job but they are seeking one
6. bodies that represent workers in negotiations with employers about wages and conditions
8. This is an acronym to describe the lowest rate of unemployment that is possible in the economy before inflationary pressures start to accelerate
9. This refers to the lowest legal wage that can be paid to adult workers and is $21.38 per hour in 2022. (2 words)
10. An increase in these will reduce aggregate demand and increase cyclical unemployment (2 words)
13. The growth in this 'economy' has been evidenced by growth in platforms such as Uber and Airtasker. Sometimes also referred to as the digital 'economy'
14. This is the type of unemployment that exists because of a mismatch between the skills required by employers and the skills possessed by those unemployed
16. A substitute for labour as a factor of production
17. This type of growth is said to exist when economic growth does not occur alongside a fall in the rate of unemployment



7.9 Chapter summary

1. A labour market is a market for labour services, where buyers and sellers of labour services come together in exchange and where the rate of exchange is the price of labour.
2. Like any market, labour markets will be in equilibrium when the price of labour (or the wage) is at such a level that the total demand for labour is exactly equal to the total quantity supplied.
3. In Australia, a person is only classified as employed if they are exchanging their labour for income and a person is counted as unemployed if they have not worked for income for that week and have actively sought work and were available to start work.
4. In the main, people work to generate income in order to purchase goods and services. however there are many other non financial benefits attached to working, such as improvements to self-esteem and a feeling of belonging.
5. The demand for labour will tend to increase if there is an increase in labour productivity; there is a reduction in non-wage labour costs, there is an increase in the price of a labour substitute (e.g. machinery); and there is a general increase in the production of goods and services.
6. The supply of labour will tend to increase if there is an increase in the non-financial benefits attached to work; if

there is a decrease in the non-financial costs of work; if there is a fall in the wage received in competing labour markets; if there is an increase in net overseas migration; if there is a reduction in restrictions on entry to some professions; if there are advances in some forms of technology.

7. Generally, to be considered employed a person needs to be over 15 and working in a paid job for more than one hour per week.
8. Generally, to be considered unemployed a person needs to be over 15, not employed but actively seeking work.
9. The labour force is comprised of both the unemployed and the employed.
10. The unemployment rate is the number of unemployed as a percentage of the labour force.
11. The labour force participation rate is the number of people in the labour force as a percentage of the working age population.
12. Underemployment is also referred to as disguised unemployment and occurs when employees are working fewer hours than they desire.
13. Hidden unemployment refers those who would like to work but are not technically classified as unemployed because they have been discouraged and have stopped looking for work.
14. The labour force underutilisation rate is the underemployed plus the unemployed all as a proportion of the labour force.
15. The two general causes or types of unemployment are cyclical unemployment and natural unemployment.
16. Cyclical unemployment is caused by a deficiency in the aggregate demand for goods and services.
17. Factors causing cyclical unemployment to rise include a decline in consumer confidence; slower economic growth rates overseas; higher interest rates; and a higher exchange rate.
18. Natural unemployment is comprised of structural unemployment, frictional unemployment, hard-core unemployment, and seasonal unemployment.
19. Structural unemployment occurs when the skills required by industries are not matched by the skills possessed by those seeking employment.
20. The Non-Accelerating Inflation Rate of Unemployment (NAIRU) is the rate of unemployment that exists when full employment is achieved. It is the lowest rate of unemployment that can exist before inflationary pressures begin to accelerate.
21. Factors that can lead to an increase in structural unemployment include advances in technology, changing tastes and fashions, and the increased propensity for businesses to outsource.
22. Unemployment has undesirable consequences for individuals and households because it reduces income, purchasing power and material standards of living.
23. Unemployment has undesirable consequences for society because it can contribute to an inequitable distribution of income and may trigger social unrest and upheaval.
24. Unemployment can be advantageous for businesses to the extent that it depresses wage costs.
25. Unemployment can be disadvantageous for businesses because it reduces incomes and decreases the demand for goods and services.
26. Unemployment is generally considered to be a waste of resources and it also has a negative impact on the budget outcome.
27. Over the past few years the participation rate has increased and the rate of unemployment has fallen.
28. Over the past 45 years the participation rate of females has increased significantly while the participation rate of men has fallen significantly due to many factors such as changes in the structure of industry, changes in social attitudes, the women's liberation movement and more family friendly policies of governments.
29. There continues to be a gender pay gap in Australia evidenced by female average earnings being $1,609.00 in 2022 compared to men's of $1,872.90, meaning that women still earn $263.90 less than men on average.
30. Causes of the gender pay gap include gender discrimination; men working in industries that traditionally receive higher remuneration; women working in low paying professions (such as child-care) that are female dominated; men more likely to be working in senior positions; and women more likely to be working in part time or casual positions.
31. Casualisation of the workforce and outsourcing of labour has increased overtime which adds to job insecurity and contributes to downward pressure on wages.
32. The gig economy covers those economic transactions where the buyers and sellers of services come together via digital platforms or marketplaces and it has also contributed to a less secure workforce but it also provides flexibility to those who are not keen to work in permanent full time employment.
33. Unions have been established to protect or advance the wages and conditions of its members.
34. Union membership has declined in Australia from 45.6% of all employees in 1986 to 14.3% in 2020.
35. Some of the factors explaining the decline in union membership include the increased use of part-time and casual labour; the decline of industries that are traditionally union dominated such as manufacturing; the growth in services industries and female dominated industries that are traditionally less unionised.
36. Declining union membership is likely to have had a negative impact on the bargaining power of employees which in turn exerts downward pressure on wages growth. However, less union involvement in wage negotiations can help to increase efficiency and produce supply side benefits for the economy.
37. The latest Intergenerational Report (2021) highlighted that annual population growth will fall significantly over the next 40 years and that Australia's ageing population has negative consequences for labour markets and the economy.
38. To help address the problems associated with slower population growth and an ageing population the government maintains its commitment to a strong immigration program.

39. Australia's immigration program focuses heavily on skilled migration which has both costs and benefits for labour market participants.
40. The government has numerous policies that influence labour markets, including the introduction of the Fair Work Act in 2009.
41. The Fair Work Act is the main law governing the relationship between employers and employees in Australia. The FWA sets out the rights and responsibilities of employers and employees under the national workplace system and is administered by the Fair Work Commission and the Fair Work Ombudsman.
42. The Fair Work Act primarily seeks to achieve more equitable outcomes in Australia's labour markets, such as seeking to address actions such as discrimination, bullying, sexual harassment and unfair dismissal.
43. The Fair Work Act establishes a National Minimum Wage that is reviewed and adjusted each year by the Fair Work Commission. As at 1 July 2022 the National Minimum Wage is $21.38 per hour or $812.60 per week for a full-time adult worker.
44. The government also influences labour markets via its immigration policy and the development of policies that seek to improve the quality of human capital, such as incentives to businesses to increase expenditure on training and development of employees.
45. General macroeconomic stimulus measures are often introduced by governments (e.g. during the recent COVID-19 induced recession) to stimulate employment and generally improve labour market outcomes.
46. There are numerous other examples of government intervention in labour markets that are designed to achieve greater efficiency or equity, including support to First Nations Australians and the development over many years of workplace laws such as those related to occupational health and safety, workplace safety, superannuation and equal opportunity.
47. A universal basic income (UBI) is a concept gaining increasing momentum internationally as an alternative to current income support schemes (e.g. unemployment benefits or JobSeeker allowance) and it has significant implications for labour markets.

Chapter 8
International Trade

8.1 International trade and financial flows

International trade in goods and services

International transactions involve the receipt and payment of money for the sale and purchase of goods and services (including labour and financial capital) across international borders. This can involve international trade and other non-trade related financial flows.

International trade involves the exchange of goods, services and capital across international borders, because there is a demand for such goods and services in countries other than where they are produced. It is broken up into exports of goods and services and imports of goods and services. For Australia, **exports** are Australian-made goods and services that are purchased by those not based in Australia– including foreign households, businesses, governments and other groups. **Imports** are foreign-produced goods and services that are purchased by Australian households, businesses, governments or other groups (such as not-for-profit organisations). The total value of exports (and/or imports) amounts to approximately 23% of the total value of Australian production (GDP) over any given period.

Financial capital flows

Australia continues to expand its economy, with ongoing investment opportunities available. As you will recall from studying the circular flow of economic activity in the economy in Unit 1, Investment (such as the purchase of capital and equipment) needs to be financed from savings. However, Australia has a low savings rate on average, and therefore borrowing from overseas has been used to fill the savings-investment gap. Countries with high saving rates provide the capital inflow to finance the purchase of houses, business expansions and the accumulation of government debt (e.g. when budget deficits are delivered, such as those handed down over recent years) in Australia.

Just as international trade in goods and services benefits both parties, these transactions are also mutually beneficial. The lenders in the foreign country receive interest for lending to Australians, and Australian organisations can use the funds to expand operations, invest in new technology, research and development, or the provision of a range of services (such as education, training, or infrastructure) which should, ultimately, increase incomes and/or improve Australian living standards.

Whenever Australian economic agents borrow money from foreign lenders it will add to the stock of Australian foreign debt - money owed by Australians to foreign lenders. In contrast, when Australian economic agents (such as banks or other investors) lend to foreign borrowers it will mean that Australia's stock of **net foreign debt (NFD)** will fall. Net foreign debt is the indicator of Australia's net debt obligation to the rest the world and is the value of all the money owed to foreigners by Australians, minus the amount owed to Australians by foreigners.

In addition to borrowing from and lending to overseas (i.e. buying and selling of debt), there is an additional key international financial flow. This involves the buying and selling of 'equity', with the most common form of equity being shares/stocks – which are units of ownership of companies. Once again, both Australian and international institutions benefit from the buying and selling of equity internationally. For example, Australian companies like Fortescue Metals purchase shares in foreign companies and the profits are sent back to Australia. Australian superannuation funds (which invest the retirement savings of Australian workers, worth over $3 trillion dollars in total in 2022) buy shares or other investment products in overseas markets. When Australian companies issue equity in global markets (by selling shares) this means that foreigners providing the funds become part-owners of the company, as distinct from lenders to the company in the case of foreign debt. The reverse is also true when Australian entities purchase foreign equity (e.g. an Australian superannuation fund purchasing shares in a US company). The total stock of **net foreign equity (NFE)** in Australia will be made up of the total value of Australian equity owned by foreign investors minus the total value of foreign equity owned by Australians.

International transfers

As a relatively rich country, Australia is a provider of overseas aid (referred to as 'Official Development Assistance or ODA) – which is designed to assist those nations that require support with economic development. The government, businesses, not-for-profit sector and households provide both monetary funding and goods and services (often in the form of donations or grants) to help such nations. This spending is designed to address the causes of poverty and help 'developing' economies move towards economic self-sufficiency. The role of this international financial flow is considered in detail in Chapter 10.

Human capital flows

Over the last 30 years or so, there has been increasing freedom for people to work in other countries, which is commonly referred to as global movement in human capital. While this is an example of the export and import of (labour) services, it is usually distinguished from other services, such as education and tourism. Many Australians are able, through temporary migration and free trade agreements, to relocate internationally for work for an extended period. Similarly, Australian organisations will pay for foreign labour via working visas such as the Temporary Skill Shortage visa and Temporary Graduate visas, and Business Innovation and Investment visas. These involve Australian employers sponsoring skilled overseas workers to fill gaps in the labour market, by bringing in workers from overseas to fill roles where there are skills shortages in Australia.

8.2 Key features of Australia's trade and trading relationships

As outlined in Section 8.1 above, international trade involves the movement of exports and imports – where goods and services cross international borders.

Exports vs imports

To summarise, exports are Australian-made goods and services that are purchased by those not based in Australia. The actual export of a good involves the transfer of the physical product (in the case of a good) to the foreign destination, such as the shipping of 1,000 tonnes of iron ore to China. In relation to services, the export takes place when the actual service is provided for foreigners by Australians. For example, the completion of a tour through outback Australia for a bus load of foreign tourists or the completion of a term of study by an Indonesian national studying at an Australian school.

The exports referred to in the contexts above relate to the movement of the 'product' (or the flow of the goods) from Australia to a foreign entity. However, this is not to be confused with the value of the exports in terms of the flow of funds received for the provision of the good or service, which of course comes into Australia.

Similarly, in relation to imports, the flow of the goods or services (which come into Australia) should not be confused with the flow of funds to pay for those imports which leaves Australia. For example, the purchase of 1,000 TVs from Korea to be used as stock by Harvey Norman represents an inflow of imports, but the cost of the TVs will be represented

by an outflow of funds to the Korean manufacturer (exporter). Similarly, when an Australian travels overseas for a holiday, the money leaves Australia and the transaction is classified as an import.

So as we examine the impacts of exports and impacts on the Australian economy in terms of aggregate demand changes or how exports and imports are recorded in the balance of payments, it is important to 'follow the money' rather than following the product. This is highlighted in Figure 8.1 below.

Figure 8.1
Exports vs imports

Application Exercise 8a: Export or import?

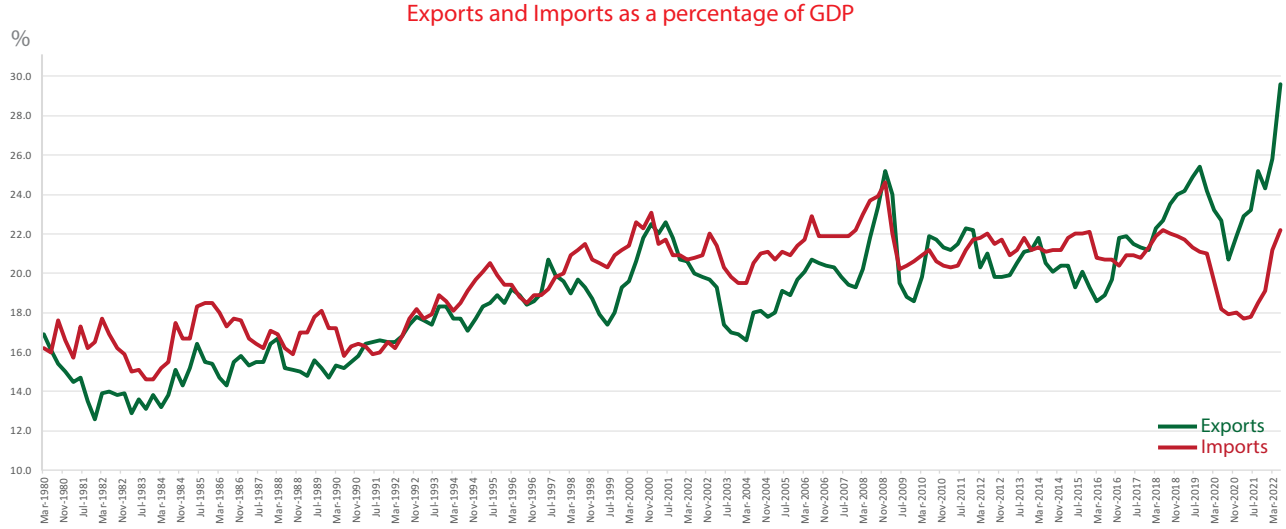
Classify the following transactions as either an export, an import, or neither, and briefly justify your response. The first one has been done for you.

Transaction	Export (X), Import (M) or Neither (N)	Justification
Alexia spends her birthday money subscribing to Spotify	Import (M)	The money will leave Australia, to pay for the service (which is based in Sweden).
Mohammed's furniture manufacturer pays a Panamanian shipping company to ship its outdoor furni-ture to another country		
Harvey Norman opens a new furniture store in Shepparton, rural Victoria		
Maya goes to boarding school in Seoul (Korea)		
Larry buys a shirt from H&M (Swedish clothing store)		
Mattea's wig company sells a container of auburn hairpieces to Kim Kardashian		
Amalia becomes a paid-up member of the Manchester United Soccer Fan Club		
Simon's grandparents visit him from the UK		
Dayara joins a World Challenge trip to Costa Rica		
Commonwealth Bank operates a branch in Wellington, New Zealand		
Señora Gonzalez travels to Berlin for a teacher's conference		
Luciano buys the latest Black Panther movie from iTunes		
Tassal Salmon sells a shipping container of smoked salmon to a Chinese supermarket		

The significance of international trade for Australia

Trade has represented a significant proportion of Australia's GDP since the country's foundation. Despite some volatility, it made up between 10 and 15 per cent of Australia's GDP throughout the 1960s and 1970s. As is clear form Chart 8.1 below, since the 1980s it has made up an increasing share of GDP, peaking in June 2022 with close to 30 per cent of GDP being contributed by exports. With exports making up more than 25 per cent of GDP, this means that around a quarter of all goods and services (by value) produced in Australia are traded internationally.

Chart 8.1
Exports and Imports as a percentage of GDP



What Australia trades

Australia is a medium-sized open economy, and our economic prosperity relies heavily on our trading relationships. Since the advent of trade liberalisation (to be considered in more detail in sections 8.7 and 8.8) Australia has specialised in the production of commodities and services while importing a large proportion of goods that we consume – particularly manufactured goods. In 2019, Australia ranked 22nd in the Global Export Rankings – contributing 1.4% of global exports of goods and services.

Our export sector is dominated by commodity exports – mostly mineral commodities – and services – largely education and tourism. As such, Australia's exports are largely from the primary and tertiary sectors of the economy, while our imports include a large range of manufactured items (the secondary sector) and services. In 2019, Australia's goods exports were worth USD272 billion and services exports were worth USD71 billion.

There are numerous reasons for the skewing of Australia's production towards certain sectors. These include:

- Australia has a resource endowment that includes significant mineral deposits, providing us with an absolute advantage in the production and export of these commodities.
- Australia's resource endowment also includes large tracts of land that can be used either for cropping or as pasture for livestock.
- Australia is a high-wage country, meaning our manufacturing sector is not able to readily compete with cheaper foreign producers – either in terms of producing for the global market (exporting) or producing for the local market (competing with imports). Consequently, Australia imports many of these products rather than producing them domestically.
- Australia has, for at least 40 years, maintained a commitment to reducing trade protection, such that any local producers are mostly not protected (e.g. by tariffs or import quotas) from cheaper imports.

Table 8.1 below summarises the latest data available on Australia's top 10 exports and imports.

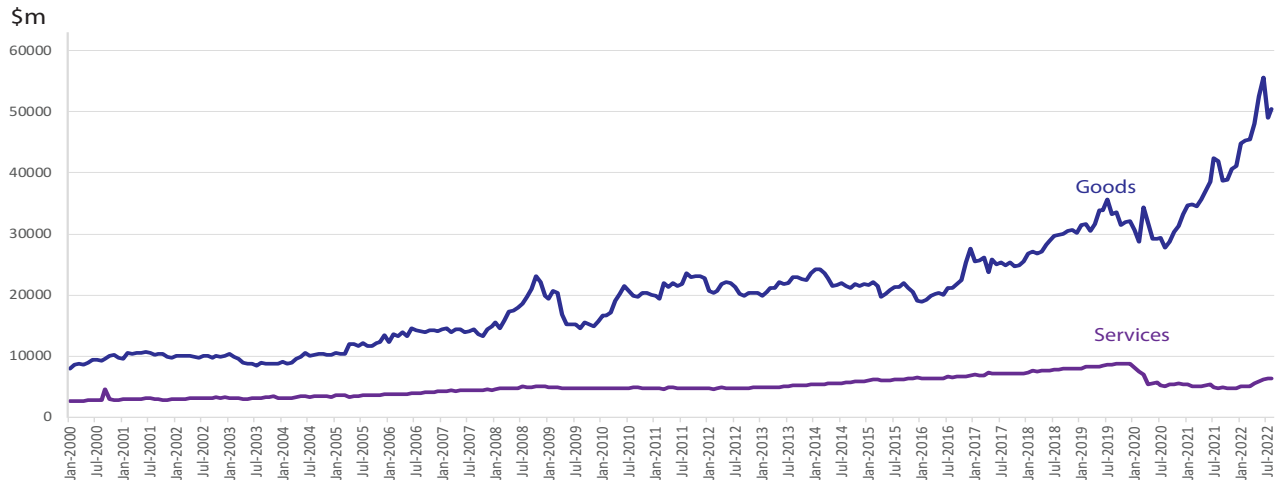
Table 8.1 Australia's top 10 exports and imports, 2019-2020		
Ranking	Export product	Import product
1	Iron ore and concentrate	Personal travel services (excluding education)
2	Coal	Refine petroleum
3	Natural gas	Passenger motor vehicles
4	Education-related travel services	Telecom equipment and parts
5	Gold	Computers
6	Personal travel (not for education)	Freight transport services
7	Beef	Crude petroleum
8	Aluminium ores	Gold
9	Crude petroleum	Professional services
10	Copper ores and concentrates	Medicaments (medicines)

Source: DFAT, Trade and Investment at a Glance, 2021 https://www.dfat.gov.au/publications/trade-and-investment/trade-and-investment-glance-2021

It is worth noting that the 2019-20 trade figures shown in Table 8.1 above are reflective of the beginning of some major changes to the pattern of Australia's international trade. In preceding years, travel-related exports would have been more highly ranked in the figures, but these were heavily restricted during the COVID-19 pandemic. International visitors (both tourists and students) were highly restricted in terms of entering Australia. It will be worth paying attention to whether this changed pattern of trade persists into the future as international borders reopen or if it was a short-term impact due to the pandemic.

Chart 8.2 below shows the relative values of the export of goods versus the export of services since the early 2000s. The value of both goods and services exports trended steadily upwards until the advent of the COVID-19 pandemic, when services exports fell significantly. Since mid-2020, the value of goods exports has risen extremely rapidly.

Chart 8.2
Exports of goods vs services



Australia's trading partners

From the early days of colonisation, up until federation, and then into the 1950s, Australia's trade was dominated by exporting to Europe, and in particular to the United Kingdom. Since the advent of economic globalisation, our trading relationships have shifted significantly. Advances in transport and communications technologies and rising living standards in Asia in recent decades have increased the regional markets for Australia's exports, and also enabled access to cheaper and more rapid imports.

Table 8.2 shows Australia's top two-way trading partners during the 2019-20 financial year. This shows those countries with whom we traded the most – including both our exports and our import trade with them.

Table 8.2 Australia's top two-way trading partners, 2019-20		
Ranking	Country	Percentage of Australia's two-way trade (%)
1	China	28.8
2	United States	9.2
3	Japan	9.1
4	Republic of Korea (South Korea)	4.5
5	United Kingdom	4.2
6	Singapore	3.6
7	New Zealand	3.3
8	India	3.0
9	Germany	2.5
10	Malaysia	2.5

Source: DFAT, Trade and Investment at a Glance, 2021 https://www.dfat.gov.au/publications/trade-and-investment/trade-and-investment-glance-2021

Application Exercise 8b: Analysing Australia's trade

1. Examine Chart 8.1. Describe the overall trend in Australia's trade balance over the last 10 ten years and explain what this says about the relationships between the value of Australia's exports and imports over that period.
2. Examine Chart 8.2. Describe the changing pattern of Australia's exports of goods vs services since the beginning of the 2000s and explain why there was a downturn in services exports from early 2020.
3. Examine Table 8.1. Explain how the COVID-19 pandemic, and the various government responses to the pandemic, is likely to have impacted the structure of Australia's exports and imports in the last two years since the data was collected.
4. Examine Table 8.2. Identify the region of the world of each of Australia's top main two-way trading partners.
5. Reflect on what you have learned about Australia's exports and imports and provide two reasons for the predominance of one particular region of the world in the answer to Question 4 above.

Extension:
The Department of Foreign Affairs and Trade produces an annual summary of Australia's international trade called 'Australia's Trade and Investment at a glance'. It can be found via the Department's Trade and Investment sub-page at https://www.dfat.gov.au/trade/resources/trade-statistics-at-a-glance. Visit the page and download the latest edition of the publication and use it to complete the following analysis tasks.

A. Find the detailed table of data about the ranking and value of Australia's two-way trading partner relationships.
- Gather data on the value of goods vs services in the two-way trading relationships listed.
- Consider what you know about the nature of Australia's economy and what Australia exports, as well as the economies of the countries we trade most with (you may need to undertake more research if you are not sure).
- Write up three possible reasons for why Australia's top 10 two-way trading partners are predominantly in the Asia-Pacific region.
- Some commentators (including economists) have expressed concern that Australia may be 'overly reliant' on the Chinese markets for its export trade.
  - o Find three pieces of data from the DFAT publication that support the argument
  - o Find three pieces of data from the DFAT publication that refute the argument
  - o Come to a conclusion based on the evidence collected as to whether Australia should or should not be concerned about dependence on China for its trade

B. Find the detailed table of data about the value of each of Australia's top 10 exports and imports
- Consider the role of commodity exports in Australia's exporting earnings. Based on what you know about recent developments around policies and actions to counter the severity and impact of climate change outline what you think may be an implication for Australia's future trade.

Review questions 8.1 + 8.2

1. Define 'international 'trade' and explain the difference between an 'import' and an 'export'.
2. Define 'net foreign debt'.
3. Explain the difference between net foreign debt and net foreign equity.
4. Outline two examples of international transfers that the Australian government could make as part of its official development assistance (ODA).
5. Define 'human capital' and describe what has happened to the international flow of human capital over the last ten years.
6. Identify how temporary skilled migration visas help Australian businesses.
7. Identify the trend in exports and imports as a percentage of Australia's GDP over the last forty years (Chart 8.1).
8. Using evidence, evaluate the proposition that Australia relies on its secondary sector for most of its exports.
9. Provide three reasons for the skewing of Australia's production towards particular sectors of the economy.
10. Identify Australia's top five exports and top five imports in 2019-20 based on the data provided.
11. Outline how the COVID-19 pandemic and government responses to the pandemic have impacted on the pattern of Australia's trade in recent years. Use evidence from Chart 8.2 to support your answer.
12. Explain what is meant by 'two-way' trade and identify Australia's most important two-way trading partner.
13. Explain whether the pattern of Australia's trading relationships has changed since the country's foundation.

8.3 The measurement and recent trends in Australia's trade and financial flows

Trade balance

When countries trade, money enters the economy in return for whatever items have been exported, and money leaves the economy as payment for whatever has been imported. Money that enters Australia is counted as a 'credit' while money that leaves Australia is recorded as a 'debit'.

The **'trade balance'** indicates the value of exports (credits) minus the value of imports (debits) in a given period. The trade balance is also sometimes referred to as the 'Balance of trade' or the 'Balance on goods and services' – indicating it measures the value of exports and imports of both goods and services. When Australia exports goods and services of a greater value than what it imports, then it runs a 'trade surplus' and when the value of imports exceeds the value of exports in a given period, Australia runs a trade deficit.

As is clear from Chart 8.3 below – which is a reproduction of Chart 8.1 from earlier, but with the addition of the trade balance – the trade balance as a percentage of Australia's GDP has been in deficit (below zero) at numerous stages during the period shown in the chart. It is worth noting that Australia's trade balance has consistently delivered a large surplus over the course of the last four years.

Chart 8.3
Exports, Imports and trade balance

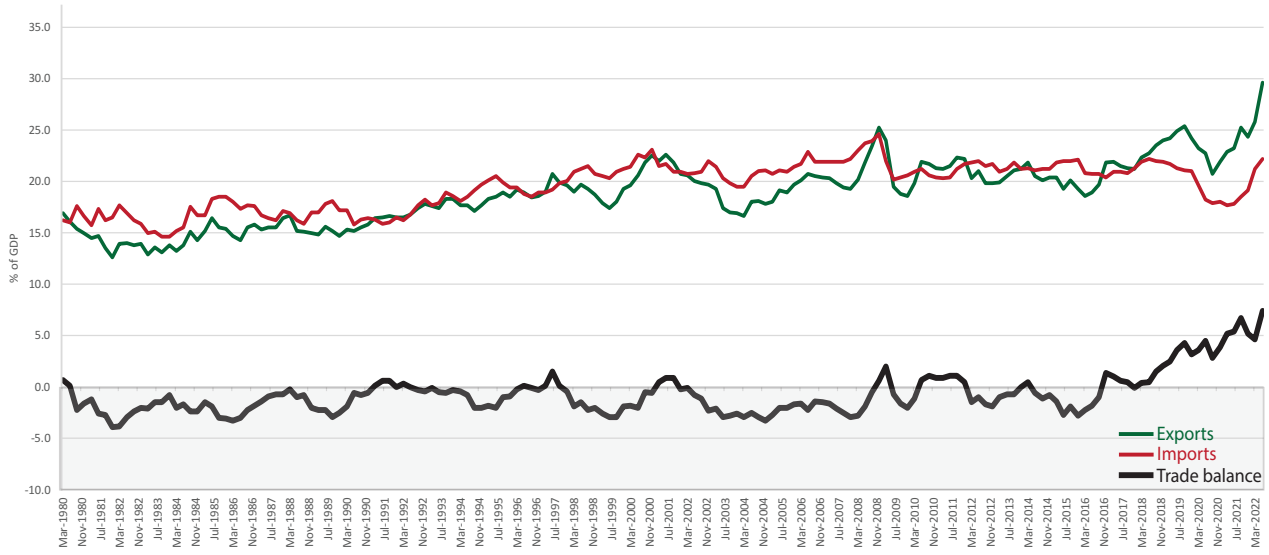


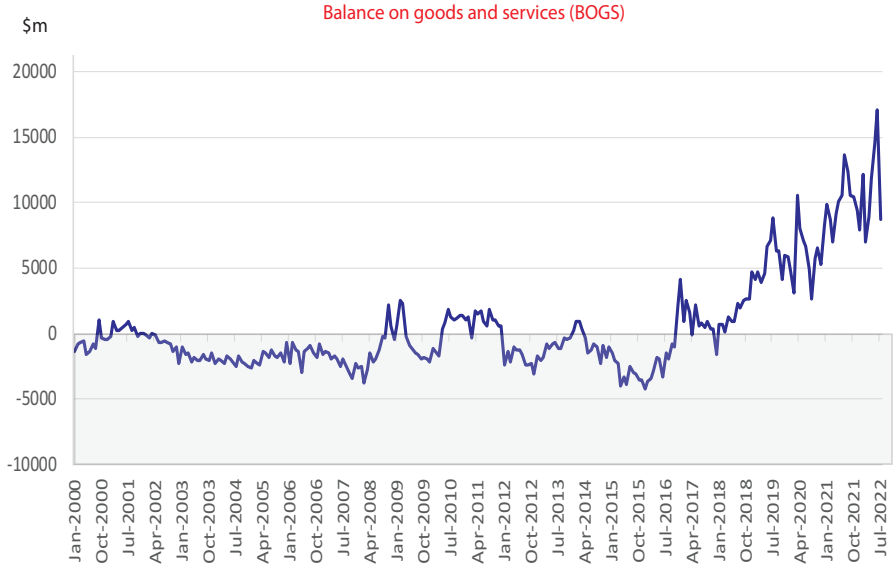
Chart 8.3 above refers to the value of net exports (exports minus imports) as a percentage of GDP. The value of net exports in absolute dollar terms is also referred to as the **Balance on Goods and Services (BOGS)**, and the most recent data is shown below in Table 8.3.

As is clear from the data in the table, during the period shown, the value of Australia's exports consistently exceeded the value of Australia's imports, meaning that Australia consistently operated a trade surplus. This period of consistent trade surpluses contrasts with the period before 2020, where Australia only occasionally recorded trade surpluses, as the value of imports exceeded the value of exports for the majority of the period.

Table 8.3: Australia's Balance on goods and services (BOGS)

Quarter	Seasonally adjusted ($m)
April 2021	9,216
May 2021	10,058
June 2021	10,544
July 2021	13,705
August 2021	12,402
September 2021	10,546
October 2021	10,462
November 2021	9,379
December 2021	7,927
January 2022	12,129
February 2022	7,062
March 2022	9,005
April 2022	11,849
May 2022	14,561
June 2022	17,131
July 2022	8,733

Chart 8.4
Balance on goods and services (BOGS)



Application Exercise 8c: Constructing and analysing charts

1. **Using the data provided in Table 8.3, construct a chart to demonstrate the trend in the BOGS over the period shown. You can use Excel or another software. Ensure the axes are accurately labelled and your chart includes a title.**
2. **Compare the most recent data for the BOGS to the data provided in Chart 8.4. Describe the key differences between the longer-term performance of the BOGS and the performance over the last 2 years.**
3. **Outline one possible reason for the difference described in Question 2 above. (Hint: consider what Australia exports most of and what was happening to the prices of these products over the two years up to July 2022.)**

Balance of payments

In addition to the trade in goods and services, as noted earlier there are other international financial transactions (financial transactions with the rest of the world) that Australia undertakes. All financial transactions involving the movement of money across international borders are recorded in the Balance of Payments, and the data for the recording of the **Balance of Payments (BOP)** is collected by the ABS. It includes not just the money in and out for trade in goods and services but also all other financial flows.

When an item is recorded in the Balance of Payments it is categorised into separate accounts and recorded as either a debit or a credit.

Credit –whenever money is received (the movement of money from foreign countries to Australia). These are shown as positive entries in the accounts of the Balance of Payments.
Debit - whenever money is outlaid (the movement of money from Australia to foreign countries). These are shown as negative entries in the accounts of the Balance of Payments.

The BOP comprises two major sets of accounts: the Current Account (CA) and the Capital and Financial Account (CAFA). Each of these accounts will have a positive or a negative balance and, at the end of any particular period, any CA deficit (CAD) must be exactly offset by a CAFA surplus, such that the BOP must equal zero. Similarly, when Australia operates a current account surplus this needs to be offset by a CAFA deficit. Table 8.4 below summarises the Current Account and the types of transactions it records.

The balance on current account

Current account transactions record all credits and debits of a 'current' nature- meaning they do not result in any future obligations. For example, when money is received in payment for exports, this does not result in any future obligation for either the Australian seller (exporter) or the overseas buyer (importer).

Table 8.4: Current account balance: a summary of each subsection

Sub-account of current account	What it records	Examples of transactions
Balance on merchandise trade (BOMT) **Also referred to as the 'Balance on Goods'** **Historically: Sometimes a surplus, sometimes a deficit.** **In recent years: a consistent surplus.** **+**	Value of all receipts (credits) from sale of 'merchandise' (goods) exports minus payments (debits) for purchase of merchandise (goods) imports.	• Sale of coal by Australian mining company to United States buyer (Credit) • Purchase of flat screen TVs from China by Australian retailer (Debit) • Qantas buys a new Boeing 777X airplane (Debt)
Net Services **Also referred to as the 'Balance on Services'** **Historically: Sometimes a surplus, sometimes a deficit.** **In recent years: a consistent surplus.** **+**	Value of all receipts (credits) from sale of service exports minus payments (debits) for purchase of service imports.	• An Australian tourist spends money during a holiday in New Zealand (Debit) • A student from Taiwan enrols to study at Melbourne University (Credit)
Net Primary Incomes **A relatively large component of the current account** **Consistently a deficit** **+**	Value of all receipts (credits) of income resulting from Australians holding foreign assets minus all payments (debits) of income to foreigners who hold Australian-based assets (foreign liabilities).	• Australian investor receives dividends from holding shares in a foreign company / interest from making a loan to foreigners (both Credits) • Italian investor receives dividend payments for holding shares in an Australian company such as BHP or interest paid to a foreign lender (both Debits) • Income received by an Australian from working overseas (Credit) and payment for foreign labour (Debit)
Net Secondary Incomes **A relatively small component in the Current Account**	One-way movements of money where nothing is expected in return – a transfer of money from one country to another. The value of all receipts (credits) minus all payments (debits) of this type.	• An Australian resident receives a pension payment from an overseas pension fund (having lived in that country during their working life) (Credit) • The Australian government sends foreign aid to the Philippines following severe hurricane (Debit)
= BALANCE on Current Account		

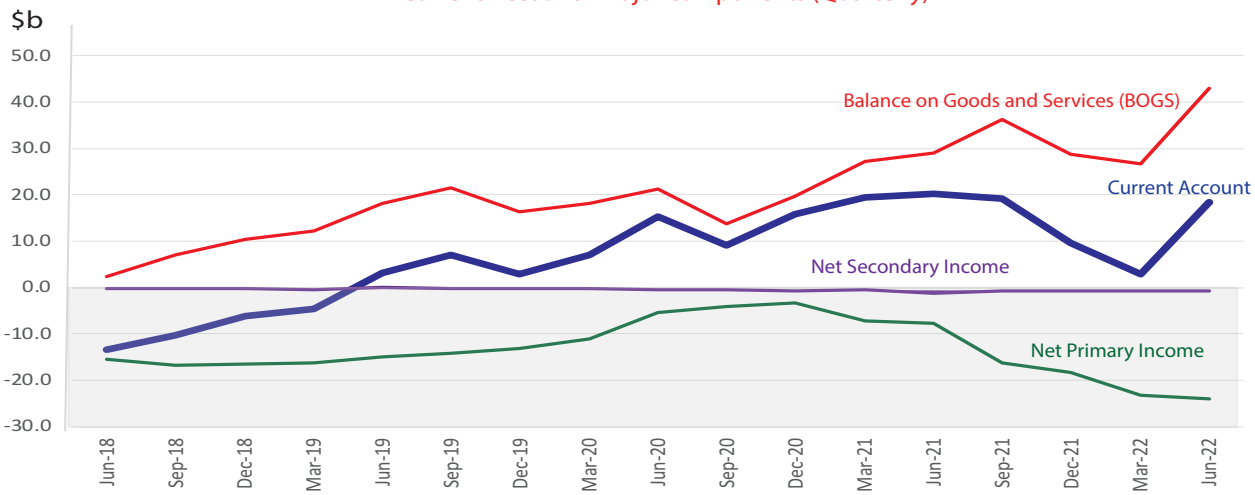
NOTE: The balance on merchandise trade (BOMT) and the Net Services are combined to determine the 'Balance on Goods and Services' (BOGS) which is also called the trade balance – particularly in ABS and RBA charts. The trade balance was explained earlier. Data for Australia's most recent balance of payments is summarised in Table 8.5 below. The quote that follows (taken from the same ABS data release) provides a summary of the key reasons for the results.

Table 8.5 Australia's current account key figures, June quarter 2022

	June 2022 ($ million)
Balance on current account	18,324
Balance on goods and services	43,085
Net primary income	-23,950
Net secondary income	-811

Higher prices for Australian commodity exports resulted in a 4.6 per cent rise in the terms of trade, with the index reaching 130.7, the highest level on record. … Annual exports of Coal, coke and briquettes exceeded $100 billion for the first time over the 2021-22 financial year. The recovery of Travel services, following the reopening of Australia's international border earlier in the year, also contributed to the rise in exports. …The net primary income deficit widened to $24.0 billion driven by high dividend payments to non-residents as profits remained strong on the back of higher commodity prices.

Chart 8.5
Current Account - Major components (Quarterly)



Application Exercise 8d: Analysing the current account

Answer the following questions based on the information provided in Table 8.4 about the structure of the current account, the data provided in Table 8.5 as well as the quote from the ABS.

1. Identify one possible credit and one possible debit transaction that may have contributed to each of the following totals during the period shown:
   a. Balance on goods and services
   b. Net primary income
   c. Net secondary income
2. Using the data provided in Table 8.5, outline how the balance on current account would have been calculated.
3. Identify the value of the Capital and Financial Account balance based on what you have learned about the relationship between the current account and the capital and financial account.
4. Examine Chart 8.5. Describe what appears to the visual relationship between the current account balance and the balance on goods and services.
5. Explain why the current account balance is consistently below the value of the balance on goods and services.
6. Using the extract from the ABS quote, in your own words explain two main reasons for the latest current account figures.

The balance on Capital and Financial Account (CAFA)

As noted previously, the balance of payments is made up of two sets of accounts – the Current Account as explained above, and the Capital and Financial Account.

It is worth restating that while the Current Account (CA) records Australia's international transactions of a 'current' nature (they do not result in any future obligations), the Capital and Financial Account (CAFA) records capital and financial transactions – which do result in a future obligation. For example, when an Australian bank borrows money from a financial institution overseas, this money will flow into Australia. Over time, the Australian bank will need to 'service' the loan, paying interest regularly, and ultimately will also have to repay the initial borrowed amount (the principal). This contrasts with, for example, the purchase of goods from overseas, which are typically paid for at the time and the payment would create no obligations to make payments in the future.

As was also noted previously, the CA can add up to be either a deficit or a surplus balance, and any CA surplus (or deficit) must be exactly offset by the CAFA deficit (or surplus) such that the BOP must equal zero.

In brief, when Australians either borrow from or lend to overseas, or buy assets from and sell assets to foreigners, these transactions are recorded in the Financial Account of the CAFA. The detail relating to each sub-account within the CAFA (including the Capital Account) is considered in more detail during the study of Unit 3 Economics. However, the most important information to understand at this stage is the difference in the types of transactions recorded, the relationship between the CA and the CAFA and how transactions on each account can affect the other account.

The CAFA records the finance flowing into Australia in the form of loans (debt) or the sale of Australian assets (equity) or vice versa. As with all transactions on the balance of payments (BOP), any money flowing into Australia is recorded as a credit, increasing the balance of the account, and any money flowing out of (leaving) Australia is recorded as a debit. For

example, when Australians borrow money from overseas, this is recorded as a credit on the CAFA, because the money is flowing into Australia. But when Australians loan money to overseas (for example, an Australian bank buys bonds issues for a foreign government), then the money flows out of Australia and the transaction is recorded as a debit.

Table 8.6 includes some examples of transactions that would be recorded on the CAFA, and how they would be recorded.

Table 8.6 Classification of Capital and Financial Account transaction examples

	Transaction	Credit or Debit
A	Australian superannuation fund purchases Apple shares on the NY Stock Exchange	Debit
B	Australia's government provides a loan to the government of Timor-Leste	Debit
C	ABC iView sells a license to Fox News to screen Q&A episodes	Credit
D	The RBA buys US government bonds	Debit
E	Shares in Telstra are bought by Germany's Deutsche Bank	Credit
F	An Australian household deposits money into an American bank	Debit
G	The Australian Government transfers money to the UN to fund peace-keeping operations	Debit
H	Vic Super sells some of its shareholdings in Tesla to Elon Musk	Credit
I	Chinese rare earth mining company builds a new mine in Western Australia	Credit
J	The Australian Government sells bonds to foreign investors	Credit

As noted previously, any transactions recorded on the Capital and Financial Account will create future obligations. In the case of the sale of equity by Australians to entities overseas (such as the sale of shares in Australian firms, or the sale of Australian property), it will result in ongoing payments of profits, rent or dividends to foreigners. Similarly, when Australians purchase assets from overseas (such as investing in foreign shares), there will be an inflow of money from overseas over time, as the overseas-based company pays dividends to its Australian-based shareholders. Each of these flows of 'incomes' will be recorded in the Net Primary Income section of the current account, which is in contrast to the receipt or payment related to the original investment (e.g. loan received) which is recorded in the CAFA.

Application Exercise 8e: Analysing the current account

Choose three transactions from the list in Table 8.6 above and explain:

1. How the transactions would create a 'future financial obligation' and identify the type of obligation created.
2. How the 'future obligation' would be recorded on the current account and whether that future flow will be a debit or a credit.

To get you started an example has been completed for you.

Scenario A: When an Australian superannuation fund purchases shares in Apple on the NYSE, in future Apple will be required to pay dividends to the Australian owners for the entire time that the Australians hold/own the shares. The payment of dividends to the Australian owners will be recorded as a credit on the Net Primary Incomes sub-account of the Current Account.

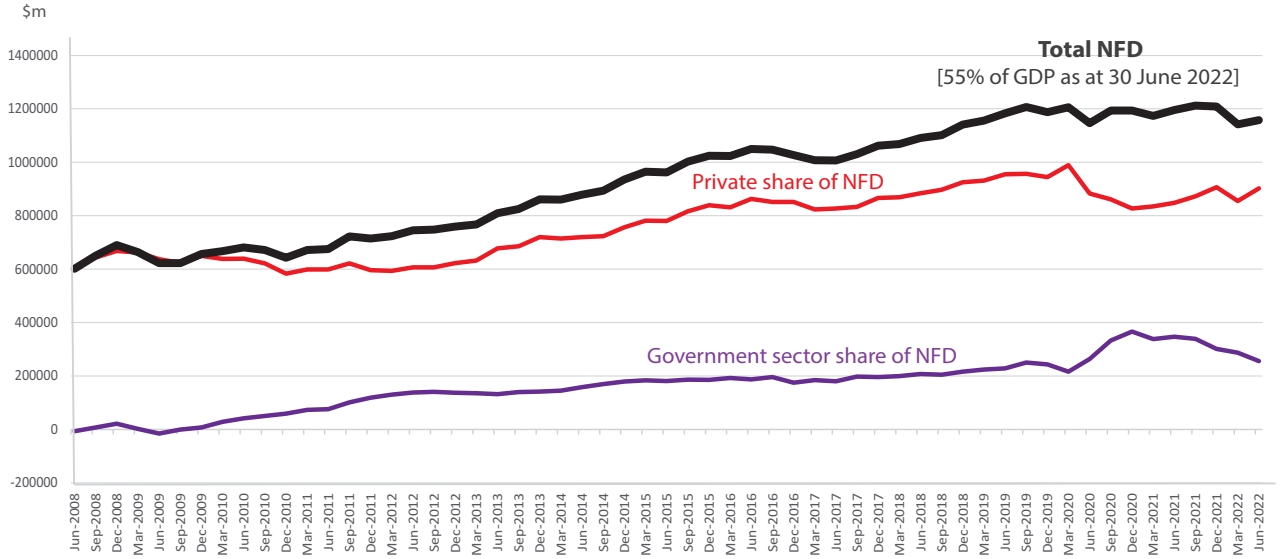
Net foreign debt and net foreign equity

When the ABS releases information related to Australia's Balance of Payments, it also includes statistics on changes in the value of Australia's **Net Foreign Debt** and **Net Foreign Equity** (which combined are referred to as **Net Foreign Liabilities**). In the ABS release, they are reported as Australia's International Investment Position.

When Australians borrow money from overseas this adds to the level of debt owed by Australians to overseas. When Australians lend to foreigners this reduces the total level of debt owed by Australians to overseas. Net Foreign Debt (NFD) is made up of the total value of debt owed to foreigners minus the total value of debt owed by foreigners to Australians. The size of Australia's NFD will affect whether or not Australia can meet its international financial obligations.

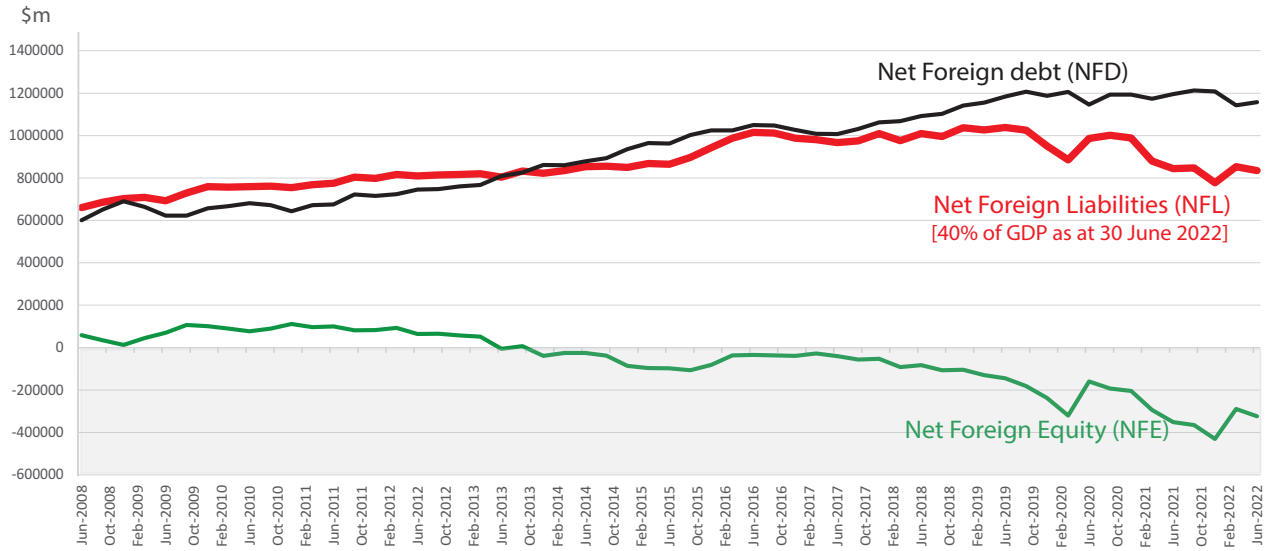
Over time, Australia's NFD has generally trended upwards, although in recent years growth in NFD has flattened, as is clear from Chart 8.6 below. Australia's Net Foreign Debt was $1.16 trillion in June 2022. The largest contributor to NFD is the private sector (households and businesses) which hold around three quarters of the total NFD with the remaining one quarter held by the public sector (i.e. governments).

Chart 8.6
Australia's Net Foreign Debt (NFD)



Net Foreign Equity relates to the level of ownership of Australian assets by foreigners relative to the value of Australian ownership of foreign assets. These assets can take the form of property, shares or land. It is calculated by adding up the total value of Australian assets owned by foreigners and subtracting the total value of foreign assets owned by Australians. Since the end of 2013, the value of Net Foreign Equity has been negative. In simple terms this means that the value of foreign assets owned by Australians is greater than the value of Australian assets owned by foreigners. This can be seen in Chart 8.7 below as the green line fell below zero.

Chart 8.7
Australia's Net Foreign Liabilities (NFE + NFD)



A negative figure for NFE means that Australia owns more foreign equity than foreigners own Australian equity. Like debt, the existence of foreign equity transactions creates international financial obligations that need to be serviced. In the case of debt, the servicing occurred via the payment/receipt of interest, whereas equity is serviced by the payment of dividends. Because Australia has NFD above zero, the payments of interest to overseas will be greater than the receipt of interest from overseas. Because Australia has NFE below zero, payments of dividends to overseas investors who own assets in Australia will be less than the receipts of dividends by Australian investors who own overseas assets. This is considered in more detail in App Ex 8F below. At the end of June 2022, Australia's net international investment position (i.e. NFLs) was $834 billion, made up of $1,158 billion of NFD and -$323 billion of NFE.

Application Exercise 8f: The causes and implications of NFD and NFE

Historically, Australia's large stockpile of Net Foreign Liabilities (and NFD in particular) is caused by the fact that national spending exceeded national income for many years (or that Australia continued to have an insufficient level of national savings to support Investment in the country).

As economics journalist Ross Gittins has noted many times, despite some community misgivings about foreign investment in Australia, it is a long-standing feature of the Australian economy. He notes that Australia has always been a 'capital importing country' – to support our economic development, we have either borrowed money from overseas (debt) or allowed foreigners to own Australian-based assets (equity – such as setting up a business in Australia or buying shares in Australian-based companies). And Australians have historically been poor savers. We've also had a small population relative to the huge opportunities that exist in Australia – to farm land, to exploit mineral wealth and other opportunities for developing the economy.

How does Australia importing capital (finance) benefit both Australia and overseas economic agents? Foreign owners of Australian assets and foreign lenders to Australia receive either profits on their assets or interest on their loans. Australia benefits because it can access a greater supply of global funds and at a (potentially) cheaper rate, which helps our economy to grow as foreign firms (or foreign funds) ultimately lead to greater investment, an acceleration in economic growth and more employment. There is the additional benefit of foreign firms operating in Australia being more likely to source supplies from their Australian subsidiaries, as well as the increased tax revenue for Australian governments. Over time, the source of foreign investment has moved from Great Britain to the USA, to Japan and more now to China.

In recent years, Australia has become a net exporter of capital. Australian ownership of foreign assets exceeds foreign ownership of Australian assets, and so Net Foreign Equity is less than zero. One significant reason for this change has been the growing size of Australia's superannuation industry. The more than $3.3 trillion Australians have saved for their retirement (rapidly growing since the introduction of compulsory, employer-funded superannuation in the early 1990s), needs to be invested, and much of it has been used to purchase overseas based investments, including the purchase of foreign debt assets (e.g. US government bonds) as well as foreign shares. In addition, there's been a decline in foreign direct investment following the end of the mining boom. In terms of net foreign debt, as Australia's savings ratio has grown, the level of foreign borrowing has also fallen.

Questions/tasks

1. **Explain why Australia has historically had to 'import capital'.**
2. **Describe the benefits for both Australia and foreigners of Australia's position as a capital importing country. Refer to both debt and equity.**
3. **Where has foreign investment in and lending to Australia traditionally come from and how has this changed over time? Based on what you know about the global economy, suggest one reason for this change.**
4. **Explain why Australia's NFE has moved from a value above zero to a negative value since 2013 and outline what this means for the ownership of assets.**
5. **Explain how the movement of NFE to a negative value would help to increase the value of credits relative to debits on the net primary incomes account of the current account.**
6. **Some economists argue that we should be more concerned about NFD than NFE. Explain the difference between the two, and suggest one reason why debt may be riskier than foreign ownership of Australian assets.**

Review questions 8.3

1. Explain how the 'trade balance' is calculated.
2. Explain how the difference between a 'credit' and a 'debit' on the balance of payments.
3. Explain what is meant by 'current' transactions on the balance of payments.
4. Explain what each of the following sub-accounts of the current account measure:
   a. Balance on merchandise trade
   b. Net services
   c. Net primary incomes
   d. Net secondary income
5. Examine Chart 8.5 and identify which sub account of the current account contributed the most to the current account deficit until 2019.
6. Identify two possible reasons for the improvement of the current account balance (into a surplus) in recent years.
7. Explain why an Australian company taking out a loan from a foreign bank would be recorded as a credit on the Financial account of the CAFA, and how this would create a 'future obligation'.
8. Explain the difference between 'net foreign debt' and 'net foreign equity' and explain why economists are more concerned about NFD compared to NFE when considering the ability of Australia to meet its international financial obligations.
9. Explain why net foreign equity is negative.
10. Explain how Australia's Net International Investment Position was $834 billion in June 2022, when Australia's Net Foreign Debt was $1.15 trillion dollars in the same period.

8.4 Australia's trade and financial flows with a key trading partner

China as a source of Australia's imports

The inexorable rise of China since the 1990s has been a key element of economic globalisation and also a key contributor to Australia's ongoing economic prosperity. China's share of global GDP was 2.26% in 1980, and by 2021 it was over 18% and is anticipated to grow to over 20% by 2027. To provide a comparison, the United States' share has been slowly declining, and fell to just above 15% in 2021, with a continued decline expected. Australia's share is just 1%.

China was able to benefit from a more open and integrated global economy as it opened its markets. It was able to provide large amounts of relatively **unskilled, cheap labour** for multinational corporations prepared to relocate to those countries. It became a location for large numbers of jobs in low-value **manufacturing**. Over time, this was transformed by investing in education and training into more developed skilled labour, through adopting advanced technology from abroad, enabling many of those manufacturing jobs to move up the 'value-add chain'. China is a key exporter of both intermediate and finished manufactures to developed countries.

The importance of China in the global economy, and specifically for Australia's economy, is well known. China's growth has been simply staggering. Since 2000, China's GDP has grown at an average of 9.5% per annum, peaking at 14% GDP growth in 2007. Even the fall in the China's growth rate to 6% p.a. in 2019 and 8.1% in 2021 (with a severe dip to 2.2% GDP growth in 2020 during the worst of the COVID-19 lockdowns) meant the value of its output still rose enormously. China's Gross National Income per capita in 2021 was USD19,170 (PPP) compared to USD980 thirty-one years prior in 1990.

The significance of China in global manufacturing and exporting is such that some have dubbed it 'the world's factory', and the Asian region **'Factory Asia'**. The history of the development of 'Factory Asia' has seen the movement of production away from the early growth economies of Asia, such as Japan, as production costs rose. Companies in Japan specialised in the higher-skilled elements of the production process, outsourcing their labour-intensive assembly operations to other East Asian nations, including Taiwan, Singapore, Hong Kong and South Korea. Ultimately, as production costs rose in each of these countries, businesses continued to pursue lower-cost assembly options, ultimately relocating to China, now "Factory Asia's" main assembly plant.

In 2019, China exported USD2,499 billion in goods and USD283 billion in services, accounting for 11.1% of global trade. China alone accounted for 28.7% of global manufacturing, with US in second place at 16.8%. China is also a key contributor to global services trade ranking fifth in global export services in 2019.

As is clear from Table 8.7 below, Australia's most significant imports from China are all merchandise (goods) imports. These include telecommunications equipment, computers, clothing and footwear, soft furnishings and computers. A report from the Australia China Business Council noted important benefits of trade with China, including greater diversity of products at a cheaper price across many consumer items.

Table 8.7 Australia's imports from China

Major Australian imports from China (AUD Billion)	2021
Telecom equipment & parts	8.8
Computers	8.1
Furniture, mattresses & cushions	4.1
Prams, toys, games & sporting goods	3.4
Plastic articles	2.6
Electrical machinery & parts	2.2
Other textile clothing	2.2

Source: Department of Foreign Affairs and Trade 'China' fact sheet

China as a market for Australian exports

China has experienced rapid urbanisation with millions of people moving from rural to urban areas every year. It now has 160 cities with populations greater than 1 million people. This influx of people into Chinese cities has caused a massive increase in demand for infrastructure and housing, and consequently building materials and energy. China has focused on enormous investment in infrastructure alongside their increasing **industrialisation**, providing a massive demand for resources to fuel its infrastructure growth and **urbanisation**.

China is now the world's largest consumer of energy. China is also a massive consumer of non-energy commodities, particularly those used for building and infrastructure such as iron ore and coking coal (for making steel, accounting for

more than 50% of world demand), aluminium (35%) and copper (40%), and bulk foods such as soy beans (40%). While China actually produces many commodities itself, it also sources an increasing share from global markets as domestic supplies cannot match demand and global prices become relatively cheaper. China has become the largest purchaser of Australian primary products, namely iron ore, liquified natural gas, crude petroleum and wool. But there has also been a very significant increase in Australia's services exports to China namely in the form of education and personal (largely tourist) travel. This is evident in Table 8.8 below.

Table 8.8 Australia's exports to China (2021)

Major Australian exports to China (AUD Billion)	2021
Iron ores and concentrates	126.8
Natural gas	18.5
Gold	7.0
Confidential items of trade	5.1
Education-related travel	4.4
Personal, Cultural and Recreational services	3.4
Wool & other animal hair	2.5

Source: Department of Foreign Affairs and Trade 'China' fact sheet

One notable feature of Table 8.8 is that it no longer has coal listed as a major Australian export to China – both metallurgical coking coal (used in making steel) and thermal coal (burned for energy). In 2020, China placed restriction on imports of coal from Australia. Until 2020, Australia was China's largest supplier of thermal coal and a significant source of coking coal. In recent months (i.e. late 2022), trade relations between the two countries have improved, but there is not likely to be much of a resurgence in exports of Australian coal to China, as there is both lower demand for coal in China and the country now has significant local inventories of the commodity.

As incomes in the Asian region continue to grow, there is an increasingly wealthy and mobile middle class who spend a smaller proportion of income on necessities. As a consequence, there has been an increase in demand for **consumer durables** and high-value luxuries, such as tourism, fashion and relatively expensive European cars. Australia has also found a growing market for Australian health services. The China Australia Free Trade Agreement (ChAFTA) included a range of preferential deals to allow Australian private healthcare providers to open facilities in certain Chinese regions. This is considered in more detail in Application exercises 8g and 8h below. The growth of Asia's middle class will continue to reshape global markets in the future. It has already brought about major changes in global food demand and consumption. As incomes have grown, there has been increased demand for protein, including more dairy, edible oils and meat. The Food and Agricultural Organisation notes that the amount of meat consumed a year in Asia increased by a factor of 14 between 1961 and 2009.

Application Exercise 8g: CHAFTA and changing trade focus

The implementation of the China-Australia Free Trade Agreement (ChAFTA) has been accompanied by a doubling of goods exports, and a more than 40% increase in Australia's imports from China.

As noted earlier, historically, Australia's trade with China has been characterised by Australia's export of commodities, such as iron ore, coal and gas, to China, and Australia's import of manufactured items from China. Certainly, resources still make the bulk of Australia's exports to China, but a growing middle class and ageing population, along with moves to free through the ChAFTA, has seen a rise in Australia's exports of consumer products and services. For example, Australian medical service providers became the first in the world to be able to operate fully foreign (Australian) owned hospitals and aged care facilities in major cities of China because of the ChAFTA. Foreign-owned hospitals will be restricted to certain regions – the major cities like Beijing, Shanghai and Tianjin, and the more 'outwardly directed' provinces, such as Fujian and Guangdong.

China's population is ageing, and there will be 400 million people aged over 60 years of age by 2065. As a result of the country's One Child policy, many Chinese will need to access paid care as they age, rather than relying on family. This will create an enormous market for those medical and aged care providers who can set up in China. Australian retirement village company Aveo had its first Chinese venture in December 2015 – creating accommodation for 2,500 residents and developer, LendLease, opened its new senior living facility in 2021 in Shanghai.

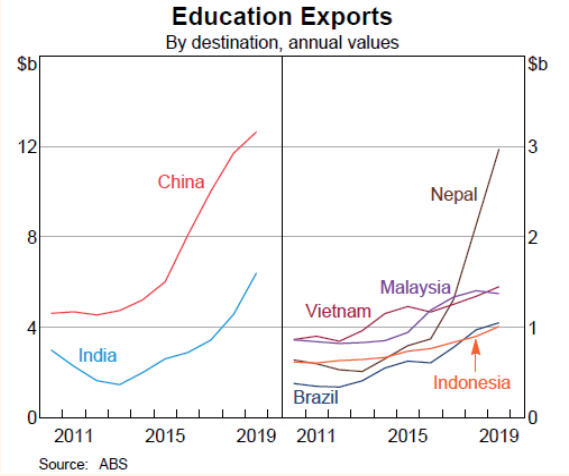
Australia is also China's 6th largest supplier of food, and consumers across China are attracted to Australia food stuffs for reasons including perceptions of food safety and quality, better nutrition, superior freshness and high-quality packaging. One particularly popular Australian export has been infant formula (powdered baby milk). Chinese 'daigou' sellers (individuals or consortiums who buy products outside China and deliver directly to Chinese consumer) account for increasing sales of all sorts of consumer items imported from overseas into China.

Questions/tasks

1. **Explain the importance of China's ageing population and demographic change in creating a potential growth of services exports from Australia.**
2. **Provide two examples of service providers that have gained a benefit from expanding into the Chinese market.**
3. **Investigate why Australian food is a particularly popular (and growing) non-commodity export to the Chinese market.**

Application Exercise 8h: The rise of Australian education as an export

Very few Australian students of economics would be unaware of the enormous role of China in Australia's recent economic prosperity. The importance of Australia's export of iron ore and LNG is well known. What is less focused on is the enormous growth in Australia as a destination for Chinese students. A deeper consideration of the nature of the industry and some of its possible costs and benefits provides a valuable insight into the pros and cons of Australia's dependence on China as its major trading partner.



Prior to the COVID-19 lockdowns in 2020, education was Australia's fourth largest export industry, bringing in $40 billion a year, including $17 billion in tuition fees and $23 billion in international students' living expenses while they studied in Australia. Australia was at that stage the second most popular destination for international students in the world. The two largest markets for Australia's education are China and India. Chinese students made up a third of the total number of international students in Australia and they tend to gravitate to the most prestigious universities – the G8 – which are ranked according to their research output. There are two G8 universities in Victoria - Monash and University of Melbourne.

Some observers are concerned Australia is too heavily 'exposed' to Chinese students – as many universities have become reliant on those students for much of their funding. One researcher found that 43% of commencing students at Australian National University (ANU) were from overseas, and 60% of those were from China. International students at G8 universities on average pay $40,000 per year for their tuition, and as such have been an enormous source of revenue for universities that have faced declining government funding in recent years. One analysis in 2019 suggested the G8 universities earned more from Chinese students than they did from the Commonwealth government grants scheme which supported the teaching of domestic students.

A flow on effect of the international student boom has been to the enormous boom in student housing. Building of apartment blocks around university campuses is thriving, as is the market in apartments in inner city areas which are also popular with international students. In 2019, increasing concerns were raised around the sustainability of the industry. Some were concerned about the possible impact of a downturn in the Chinese economy in terms of the growing dependence of the university sector on Chinese students. In addition, international students who complete a degree in Australia are entitled to stay on for a year or two after their studies, to gain work experience. This ability to temporarily migrate to Australia after completing studies is a feature of Australia's international education system that is not shared by many other countries. The numbers of students accepted for study is uncapped, in that universities generally decide how many places to offer.

Much of the revenue from international students is directed to subsidising research at the universities. Researchers have found that while research is benefiting, teaching is increasingly done by an insecure workforce of casual and short-term contract employees. Reports on the issue at the time included academics speaking out about the lack of support provided by their institutions for international students – who they claimed were being treated like 'cash cows' with little attention to their particular needs in the classroom or in terms of campus life. A further concern is the impact of the education on the students themselves. Many come to Australia desiring an international education experience, but end up being isolated by a lack of language proficiency and socialising only with other international students from the same background.

The arrival of the COVID-19 pandemic cut a swathe through the international student population. International students were not eligible for any of the pandemic-related support payments available to others who had lost their means of support (namely the JobSeeker supplement and JobKeeper). The government also closed the international borders. Consequently, education exports declined sharply in the March 2020 quarter. Some universities were able to provide flexible (example online) study options, but because of lack of financial support, some students had to return to their country of origin.

Questions/tasks

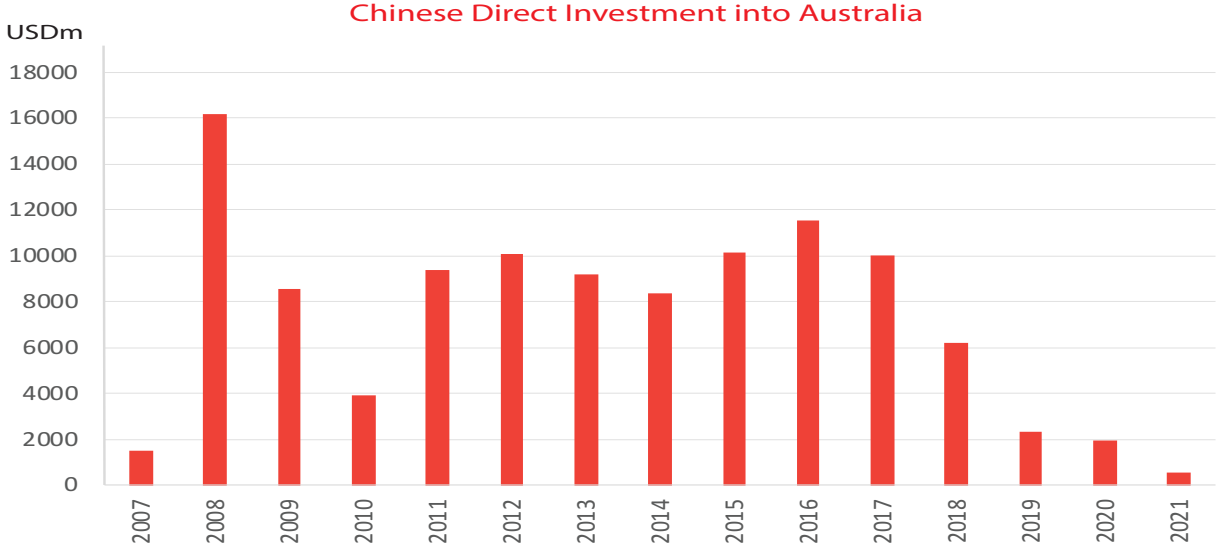
1. **Examine the chart above showing Education Exports by Australia. Describe the trend in these exports for China and India for the last ten years.**
2. **Using the chart, describe how Nepal is an increasingly important export partner in Australian education.**
3. **Explain the significance of the export of education for the Australian economy.**
4. **Explain what is meant by the risk of Australia being too heavily 'exposed' to international students.**
5. **Create a T-chart outlining the risks vs the rewards or costs and benefits for Australia of the rapid growth of Chinese international student education. Compare your responses with those of a classmate.**
6. **Outline how this case study of international education provides an insight into the potential advantages and disadvantages of Australia's reliance on China as its largest trading partner.**
7. **Explain the impact of the COVID-19 pandemic on education exports from Australia. Discuss whether this presents a risk to the Australian economy going forward.**

Investment flows between Australia and China

A research collaboration between global services firm KPMG and University of Sydney found that, as of the end of the 2021 calendar year Chinese companies had directly invested a total of USD110.1 billion in Australia. Many of these included investing in, or acquiring, mining and energy companies, infrastructure, wind turbine farms and a dairy processor.

However, over a one year period, Chinese investment flows declined by 69% from AUD$2.5billion in 2020 to AUD$0.8 billion in 2021. Only 11 transactions took place, compared to 20 Chinese foreign investments in Australia in 2020. Despite the fall in Chinese direct investment flows over recent years, Australia remains the second largest recipient of Chinese overseas investment. In contrast, Australian investment into China totalled more than $75 billion in 2021.

Chart 8.8
Chinese Direct Investment into Australia



Source: 'Demystifying Chinese Investment in Australia', April 2022, KPMG and University of Sydney, https://assets.kpmg/content/dam/kpmg/au/pdf/2022/demystifying-chinese-investment-in-Australia-2021.pdf

The declining trend in Chinese direct investment in Australia since 2016 has occurred despite the loosening of some restrictions on Chinese investment as part of the ChAFTA. For example, the screening threshold for private Chinese investments in non-sensitive sectors increased to over $1 billion. Sensitive sectors include agribusiness, agriculture, media, telecommunications and defence-related industries. Any Chinese state-owned (government) businesses are also screened when applying to invest in Australia. The downturn is largely attributable to the Chinese government decision to impose restrictions on capital outflow from China, due to concerns about excessive debt, inappropriate investment and 'capital flight' (e.g. Chinese investors trying to move money out of China over fears of government crackdowns and potential wealth redistribution policies).

As noted inApplication Exercise 8g earlier, the ChAFTA included many commitments to removing restrictions on Australia's export of services to China, and the delivery of services (such as health and aged care, shipping, architecture and urban planning, and legal, finance and insurance services) often requires direct investment in the Chinese economy through the building of local branches or offices of Australian companies. This accounts for much of the $75 billion direct investment into China by Australian companies up until 2021.

Table 8.9:
Major recipient countries of Chinese Overseas Direct Investment from 2005- 2021

Ranking	Country	Value (USD$ billion)
1	United State of America	188.9
2	Australia	102.7
3	United Kingdom	97.3
4	Switzerland	61.6
5	Canada	57.7

Source: https://www.aei.org/china-global-investment-tracker/

Application Exercise 8i: Foreign control of Australian agricultural assets

In recent times, there has been ongoing debate over the foreign control of Australia's agricultural assets, such as farms and pastoral properties. The concerns seem to be particularly strong when Chinese state-owned companies express interest in buying these assets. Some commentators have argued that allowing foreign interests to own an increasing proportion of Australia's agricultural land could compromise the country's future food security. With an ever-growing global population and increasing incidence of extreme (and disruptive) weather events from climate change, productive agricultural land is in high demand. Some have observed that an increasing number of government-backed overseas entities are buying up prime Australian farmland. It has also been noted that China is the third-largest foreign stakeholder of Australian water behind Canada and the US, owning 1.5% of the total Australian water entitlement (with about 11% of Australian water being foreign owned.) High profile Australian entrepreneur, Dick Smith, raised concerns, saying: *'What people don't realise is that if someone buys prime agricultural land, we can't force them to sell us the food from that land. They can ship the food from the land directly to their country and I think that should be looked at.'*

On the other hand, supporters of foreign ownership argue that foreign investment is beneficial, such as the following comment from former Prime Minister, Scott Morrison, when he was Australia's Treasurer: *'Foreign investment is integral to Australia's economy. It contributes to growth, productivity and creates jobs, but the community must have confidence that this investment is in the national interest.'*

The Department of Foreign Affairs and Trade (DFAT) points out that Australia produces much more food than it consumes, and our farmers are substantial exporters (producing enough to feed 40 million people outside our borders). Over 90% of the fresh food consumed in Australia is produced by Australian farmers. Australia ranks third in food affordability on the global index. It also notes that the Australian government maintains the right to impose restrictions on how land is used, or who can buy Australian agricultural land, through the Foreign Investment Review Board. Since 2012, the government has collected a register of foreign-owned farms and agribusinesses in Australia. In 2015, 13.6% of Australia's possible agricultural land was foreign owned. The latest round of data, at June 2021, is summarised below. Examine the data, read the outline of relatively-recent developments and complete the tasks that follow.

Table A: Key data from Register of Foreign Holdings of Agricultural Land, as at June 30, 2021

Percentage of Australia's agricultural land that is foreign held	14.05%
Total area of possible agricultural land in Australia	377.002 million hectares
Area of possible agricultural land in Australia held by foreigners	52.985 million hectares
Country of residence of owners holding the largest amount of farmland in Australia	China
Percentage of Australia's foreign owned agricultural land which is held by Chinese residents	16%

Table B: Top 5 foreign holders of Australia's agricultural land by area

Country	Million hectares (ha) owned	% of Australian agricultural land held
China	8.5	
United Kingdom	8.2	
United States	2.9	
Netherlands	2.8	
Canada	2.4	
Bahamas	2.2	

Source: https://firb.gov.au/sites/firb.gov.au/files/2022-02/2021-rfo-agricultural-land.pdf

Kidman and Co.
In 2016, foreign ownership of Australian agricultural assets was very much in the news with consortiums bidding to buy the world's largest cattle farm - the Kidman & Co pastoral leases. The total land holding of the company was 11 million hectares. The government blocked an early Chinese bid to purchase the properties. Later in the year, Australian miner, Gina Rinehart paired with a Chinese investor (Shanghai Cred) to make another bid – hoping it might be more acceptable to the Australian government, with its element of increased Australian ownership. The bid was successful, and, as a consequence, the largest cattle station in Australia is now owned two-thirds by Gina Rinehart and one-third by the Chinese investor. As a result, China has moved up the rankings from 2nd to 1st in terms of foreign control of Australian agricultural assets.

Questions/tasks

1. **Create a table to summarise the argument presented in favour of and against foreign ownership / holding of Australian agricultural land.**
2. **Describe what has happened to the proportion of Australian agricultural land that is foreign held since 2015. Use data to support your response.**
3. **Using the data in Tables A and B, calculate the percentage of Australia's foreign landholding that is held by each of the following countries to complete the final column of Table B: The United States, the Bahamas and China**
4. **Explain if there was anything in the details of foreign ownership of Australian agricultural land that was unexpected or that surprised you. In your response, provide details.**
5. **Define the term consortium.**
6. **Explain the significance of the Kidman & Co cattle leases in the context of the Australian economy.**
7. **The Treasurer, Scott Morrison, has stated that foreign investment in Australia must be 'in the national interest'. Explain what you believe this means, and why this may have led the Government to block the sale of Kidman & Co to Chinese interests in early 2016.**
8. **According to The Weekly Times newspaper, there was great 'consternation' about foreign ownership, particularly Chinese ownership, of Australian agricultural land. Can you identify any reasons for the particular concern over Chinese ownership of agricultural land?**

China's future growth and Australia

According to the World Bank in September 2022, China is approaching the limit of its high growth potential. As the World Bank notes, China's high growth has been based on investment (substantial infrastructure and enormous investment in housing development) and low-cost manufacturing with a focus on export markets. The reasons the economy is 'approaching the limits of its high growth potential' include the ageing population and the economic implications for its economy, the changing structure of Chinese society, and the environmental implications of its development approach.

China's labour force is not growing, as its population ages rapidly, and as a result the country is experiencing slowing productivity growth. In addition, there have been ongoing issues around the property market – where tightening government regulations in recent years led to a liquidity squeeze for developers as they couldn't service their debts and the property market teetered on the verge of collapse. China is also facing global pressure on carbon emissions and climate change, since it accounts for around 25% of global greenhouse gas emissions and also has above average per capita emissions. The World Bank suggests that the country needs to shift the structure of its economy from manufacturing to high value services, and from investment to consumption, alongside a shift from a high to low carbon intensity economy.

China's growing economy is a major source of global demand. As noted above, as a manufacturing-focused economy, China has sucked in commodity exports at growing rates. For Australia, any slowing in China's growth, as well as any shift of focus, would have significant implications for our economy, since our trade with China is dominated by commodity exports.

Australia's economic relationship with China has been negatively affected by trade tensions in recent years (some of them resulting from broader geopolitical tensions around China's role in the South China Sea and Pacific). This is unpacked further in sections 8.6 and 8.7 below when considering the implications of trade liberalisation and rising global trade tensions on Australia.

Review questions 8.4

1. Using data, describe the rise of China since 1980
2. Explain why China is often referred to as the 'the world's factory'.
3. Describe China's recent economic growth performance.
4. Define 'labour-intensive' production and explain how China's demography has allowed it to grow so rapidly.
5. Identify the size of China's contribution to global trade in both goods and services.
6. Explain how Australia has benefited from China's development, in terms of both exports and imports.
7. Outline the importance of China as a source of overseas investment capital for Australia.
8. Describe how rising incomes in China are likely to affect the Australian economy into the future.
9. Identify and describe two potential downsides of Australia's significant reliance on China as its major trading partner.

8.5 The benefits of trade and capital flows for living standards

Australia is a medium-sized, open economy – meaning that our prosperity depends, in part, on the world economy and its interaction with other economies. International trade between nations can be mutually beneficial in the same way that gains are made from trading goods and services in any market. Ultimately, international trade occurs because it increases the material and non-material living standards of the citizens in all affected countries. There are a wide range of international transactions that are undertaken, and they have added to the wellbeing and economic prosperity of Australia.

Benefits of international trade in goods and services

When countries trade between each other, living standards in both trading countries often increase. From Australia's perspective, purchasing imports allows Australia's residents to purchase goods that Australia may not be able (or choose not) to produce, from the cheapest and best quality in the world. In doing so, Australians can access a more diverse range of products at cheaper prices, as well as being able to access to the best available technology. Buying imports also allows the smooth functioning of Australian businesses and governments, because more than half of Australia's imports are inputs in the production process (such as telecommunications parts, robotics, plastics and aircraft parts). Imports also when Australians buy overseas holidays and purchase of foreign entertainment, such as subscriptions to streaming services and movies from overseas, which undoubtedly add to the enjoyment of life for many Australians.

The selling of exports also improves living standards because it creates a new market for goods and services that have been produced in Australia but may not have been purchased by Australians. For example, Australia has an abundance of mineral resources such as iron ore and coal (commodities) through its natural resource endowment. These can be sold to other countries in exchange for income received by Australian-owned businesses. Australia is one of the world's largest producers of these resources and has a **competitive advantage** in the production of them. Australia is therefore able benefit by producing larger quantities of them for sale to overseas customers. The production of exports requires labour, and so jobs are created through the selling of exports. The additional income is likely to be spent in the economy, further stimulating economic activity and creating jobs in unrelated sectors. For example, the mining sector in Australia, while only providing around 2% of Australian employment, produces export income that is then spent, creating jobs and income in other industries. Therefore, mining export booms will benefit the whole economy, whether Australians work in the mining sector or not.

International trade also promotes competition and the incentive to innovate and create new products. Businesses have the incentive to find ways to beat their competitors and are exposed to new ideas through the use of technology that may have been developed in another country.

International trade allows businesses in the world to sell to a larger market. When a business produces, it can experience cheaper production costs per unit of its output, the higher the volume of output it produces. This is called achieving **economies of scale**, which refers to the reduction in costs per unit of output (i.e. average costs) gained from increasing the volume of production. Economies of scale exist because the costs of production can be divided, roughly, between two main types - the fixed costs and the variable costs. The fixed costs of production remain the same regardless of the volume of production. Up to a certain amount of output, the factory and plant (machinery used) can be considered a fixed cost in the manufacture of, for example, televisions, regardless of how many televisions the factory produces. As can the marketing and administration costs of running the company. The company can therefore spread the fixed costs across a larger volume of production if the factory produces a larger number of that product. The variable costs of production are those that vary according to the volume produced (e.g. the cost of the plastics, glass, speakers, picture tubes, electricity and labour costs will vary directly according to how many televisions are made).

Overall, this ability to spread the fixed costs between a larger volume of production will mean that the cost per unit will tend to decrease and consumers will be able to purchase the products at lower prices. Prior to increased global trade, Australians spent a much larger percentage of their weekly income on clothing and white goods, compared to today. The prices of cars in Australia have actually fallen by 12 per cent since the mid-1990s.

For many years, it has been observed that one of the challenges facing the Australian economy has been that our market is too small to take advantage of the economies of scale. If firms can gain a larger market, through exporting for example and penetrating global markets, then they can take advantage of the economies of scale available for a larger volume of production. By reducing average costs of production, companies can keep their prices down, become more competitive and increase profitability. In addition, Australia buying imports from countries that produce at a high enough volume to take advantage of economies of scale means we can buy cheaper products from overseas. Lower prices further promote increases in living standards because purchasing power increases and more goods and services can be purchased from a given income.

Application Exercise 8j: Amazon's massive economies of scale

Amazon is a company most Australians would be familiar with and many will have bought something from. In fact, in its four years of operation in Australia, it has become one of the leading online marketplaces. It leapt ahead of other locals, Catch and Kogan, during the COVID-19 lockdowns over 2020 and 2021. Its sales revenue hit $1.75 billion (AUD) in 2021, partly boosted by its offering of the Amazon Prime streaming service. Previously, revenue more than doubled in 2020, to over $1 billion.

Established in 1995, Amazon.com, Inc. is an example of a company that has taken advantage of economies of scale. It started out as a website that sold only books, promising to deliver any book to any reader anywhere. The founder, Jeff Bezos, says he always wanted Amazon to be an 'everything' store, and over time it has evolved into just that. It now sells Kindle readers, software, music, clothing, shoes, toys, tools, art, car parts, computers, musical instruments, and much more. Amazon rents out computer processing and data storage to businesses through cloud computing. It offers a video-on-demand streaming service. It bought shoe retailer, Zappos, in 2009, and in 2017 it took over supermarket chain, Wholefoods, moving into the fresh food business.

Amazon has kept its per-unit costs down by operating out of large fulfilment centres – massive warehouses - and ordering books directly from publishers. It now has significant monopsony power – as one of (if not the) largest sellers of books in the world they are able to influence the price they pay to their suppliers. Its fulfilment centres are largely automated, and the cost of operations is relatively low. Unlike a traditional retailer, Amazon doesn't move large pallets or containers of products to different retail locations, but rather fulfils the orders from large central locations (often only a few in one whole country) reducing its warehousing and handling costs per unit of product sold.

In addition, Amazon has spread the cost of its massive investment in its internet shopping engine (i.e. the cost of developing its customer interface webpage) across multiple categories because it sells so many different products. The cost of building and maintaining a user-friendly customer online shopping interface has proved to be too high for many potential competitors to Amazon. Today, Amazon is the largest Internet-based retailer in the world by total sales and the value of its shares. It employs over 300,000 people worldwide, sells into more than 180 countries and but only has around 120 fulfilment centres – another way of reducing its per-unit costs of production.

Questions/tasks

1. **Define 'economies of scale'.**
2. **Identify three fixed costs and three variable costs Amazon is likely to face.**
3. **Identify two ways in which Amazon has achieved economies of scale, and how this has helped the company reduce their cost per unit of output.**
4. **Explain how technology has helped Amazon achieve economies of scale.**
5. **Critics of Amazon have accused it of using an unfair advantage to drive smaller competitors out of the market. What evidence from the case study may support that claim?**
6. **Class activity: Make a T-chart and use it to list the ways in which the arrival of Amazon in Australia may have created benefits and costs for the domestic economy.**

Benefits of foreign financial flows

So when an economic agent (a business, a government or an individual) has insufficient savings to fund investment, they will typically raise funds by issuing/selling debt (i.e. borrowing money) and/or issuing equity (e.g. selling shares). By investing overseas, Australian entities can look for the best rates of return, which can provide an additional source of income. By selling shares or bonds in overseas markets, Australian companies can raise money in global markets to fund investment projects and reduce their costs of borrowing. Further benefits of foreign flows were considered in Application Exercise 8f earlier in this chapter, during the consideration of Net Foreign Debt and Net Foreign Equity.

Benefits of international transfers/foreign aid

Over time, this should raise living standards in both the donor and the recipient countries. In future economic periods, economic growth might increase, which will increase the ability of the recipients to purchase goods and services and avoid the health problems associated with poverty. Australians may benefit because they feel good knowing they are helping those less fortunate, and in future they may be able to trade with the country. Australia's recent focus on countries in the Asia-Pacific region as the major ODA recipients indicates the importance of the region for Australia's future economic prosperity and social and military security. The importance of international aid is considered in detail in the final section of Chapter 10.

Benefits of human capital flows

The ability for Australia to take advantage of skilled foreign labour has clear benefits for the business sector including:

- It can help to alleviate capacity constraints or skills shortages that may exist in some industries or occupations
- It can reduce the costs to business of training Australian workers
- It can improve the quality of human capital as skills transfer takes place between foreign and local workers
- The improved quality of human capital flows through to benefit consumers as cheaper and/or higher quality goods and services can be produced.

The ability of Australians to take advantage of opportunities to work overseas include:

- the income generated by Australians working abroad flows into Australia
- improvements in the quality of Australian human capital as new skills acquired overseas are then brought back into Australia

Review questions 8.5

1. Outline three benefits of increased international trade in goods and services.
2. Define competitive advantage.
3. Define economies of scale, explaining the difference between fixed and variable costs of production.
4. Explain how the opportunity to embrace economies of scale is a benefit of international trade.
5. Describe how international financial flows can benefit Australia.
6. Define 'foreign aid' and explain how foreign aid can benefit both the recipient and donor countries.
7. Outline two benefits of human capital flows for Australia.

Application Exercise 8k TRUE or FALSE: Australia and International Trade

Statement	T	F
International transactions can increase non-material living standards		
Australian exports are foreign-made goods and services that are purchased by Australians		
The purchase of imports enhances living standards on the whole		
International trade reduces domestic competition		
Exports are a component of aggregate demand and each dollar spent results in an increase in national income and production		
Trade will most likely prevent nations from specialising in those areas where they have a competitive advantage		
International trade allows businesses in the world to sell to a larger market		
Australian organisations rely on foreign savings or foreign capital to fund investment		
Increased trade in goods and services prevents superannuation funds from diversifying		
International trade creates additional incentives for local businesses to become more productive		

8.6: The impact of trade tensions, protection and trade liberalisation on Australia's economy and specific industries

Trade protection

Trade protection involves efforts by governments to protect local import-competing producers from the threat of imports. It involves the imposition of barriers to trade such as tariffs, quotas and subsidies. Historically, most countries around the world, including Australia, used trade protection to 'protect' local producers. Table 8.10 below summarises the key types of trade protection that have been used historically.

Table 8.10: Commonly used trade protection	
Tariffs	Taxes imposed on imports entering the domestic market. Tariffs act to increase the price of imported goods and services and protect local import-competing businesses because tariffs make imports relatively more expensive compared to the locally-produced product. The tariffs can be based on a certain percentage of import value (e.g. 5% of the value being imported) or on a certain amount per unit being imported (e.g. $2,000 per imported machine). Application Exercise 8I below gives a simple example of the impact of tariffs on prices paid by consumers, and on various areas of the Australian economy. *[Note that tariffs are collected by the importer on behalf of the government]*
Subsidies	The government providing local producers with financial or other forms of assistance. It can involve cash grants or loans at a concessional rate. It works to artificially lower the price of import-competing locally produced products but add to the cost structure of the economy.
Quotas	A form of protection involving controls or limits on the volume of imports entering the country. It ensures local producers are guaranteed a larger share of the market, and has a similar impact to tariffs, because it artificially raises the price of the relevant imports.
Parallel import restrictions	A form of protection involving the prevention of foreign businesses from producing and selling goods into Australia that are protected by Australian copyright laws. These are often introduced to protect 'cultural production'. An example in Australia is the publishing industry where there remain restrictions on the parallel importation of books into Australia where there is a local publisher.
Local content rules	A form of protection that requires that certain goods or services produced in Australia must contain a specified percentage of Australian content. For example, the film and television industries are currently protected in Australia by rules such as the requirement that locally produced programs must constitute 55% of the content on free-to-air primary channels.
Preferential treatment of local producers	Government procurement (purchasing) policies that provide local producers with a better chance of winning a government contracts compared to foreign providers of goods and services.
Non-tariff customs barriers and administrative restrictions	These can include restrictions on the import of certain types of products on the basis of biosecurity risks such as diseases and pests. They can also include 'red tape' (administrative burdens) that restrict trade in an 'unjustifiable' way or restrictions on the recognition of professional qualifications. For example, Australia restricted imports of certain products such as apples from New Zealand on the basis of fear of infestation of Australian orchards with diseases that exist in New Zealand but not Australia.

Reasons for and effects of protection

There have always been instances of countries imposing trade barriers for both political and economic reasons and, over the period since the global financial crisis, this appears to have intensified. There have been an increasing number of examples of trade disputes occurring between countries, with the most notable recent example being the ongoing dispute between China and the USA, related to issues such as national security and global power, which has resulted in an escalation of protectionist measures, such as tariffs and subsidies. Another recent example relates to China's imposition of tariffs on Australian beef and barley during 2020, which many believed was a protest against Australia's call for an enquiry into the origins of COVID-19. Since then, China ramped up its protectionist measures targeted at Australia, again for political reasons (e.g. Australia expressing concerns about China's expanding influence in Asia and its growing presence in the South China Sea).

More generally, the COVID-19 pandemic further increased the tendency for countries to look inward, with the global trade in services in particular, such as education and tourism, unlikely to recover for decades. However, invariably the most common reason for engaging in protection is to protect the local economy. There are countless examples of countries, including Australia, seeking to protect local output and jobs from imported competition. All these forms of 'protection' or 'assistance' seek to protect local producers from competition in an effort to promote local output, employment and incomes. By making imported products less competitive, local producers can more easily retain market

share, which boosts production levels, maintains employment growth and prevents domestic incomes from falling.

Economists and policy makers would also point to more specific reasons for protection. They include:

- To protect **infant industries**. This is often referred to as the infant industry argument where tariffs are used to protect relatively young industries from low priced competition. Once the local industry develops (i.e. achieves the requisite level of efficiency and profitability to compete without protection) the tariffs are then removed.
- To counter the effects of other countries **dumping goods** onto local markets. Dumping refers to the practice of selling a good in a foreign market at a price below the costs of production. It is often done to eliminate competition (after which prices are increased), to offload stock that is in excess supply, or because the product is highly subsidised in the country of origin.
- To **retaliate** against the imposition of protective barriers set up in foreign markets (e.g. Australia could refuse to lower tariffs protecting the automobile sector industry until the USA, Japan or France remove subsidies given to their agricultural producers).
- To protect **local culture and identity**. This argument is used to protect Australia's film and television industry as well as the local book publishing industry. It is argued that Australia needs to protect our local identity and talent from programs and books that flood our markets at cheap prices from countries like the USA.
- To provide for **longer term security** by ensuring that Australia maintains the capacity to provide for itself in the longer term in terms of essential goods or services. This includes defence capabilities (e.g. maintaining a manufacturing base) or food and energy supplies. The challenges of **supply chain interruptions** caused during and after the COVID-19 pandemic and the Russian invasion of Ukraine have highlighted this issue and made it part of public debate once again as shortages of numerous products occurred in Australia and globally.
- To support industries which invest heavily in **research and development**, whose innovations and advances in technology can be utilised across the economy, thereby providing positive externalities. For example, advances that are made in the pharmaceutical or aerospace industry can assist the development of other industries.
- To protect and maintain **'high product standards'** and prevent the importation of products that threaten local industries or pose risks to human safety (such as imports of agricultural products that can spread viruses or disease).

Application Exercise 8I: How tariffs work

Complete the following exercise – a simplistic example of how tariffs increase the price of imports – to understand more clearly how tariffs work.

Imagine the following situation: Two companies both sell a pair of jeans.
- Company A makes its own jeans in a factory in Australia
- Company B imports its jeans from overseas

Complete the table below by calculating the price customers will pay for the jeans, based on whether or not Company B is required to pay a tariff on the jeans it imports.

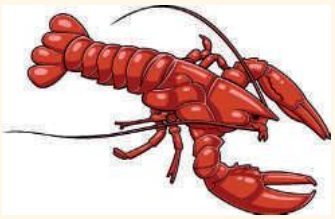
The final column shows the price of the jeans if there were no tariffs facing Company B (who import the jeans from overseas). The middle column shows the price of the jeans if there was a 40% tariff faced by Company B – which Company A does not pay because they make jeans locally.

	Company A (Australian maker of jeans)	Company B (Importer of jeans)	Company B NO TARIFFS!
Cost Price	$40	$30	$30
Tariff rate	-	40%	-
Total Cost			
Cost to consumers (assume a 100% mark-up)			

Questions/tasks

1. **Describe the effect of the tariff on the following economic agents in the Australian economy:**
   a. **The consumer (buyer of jeans)**
   b. **The Australian manufacturer of jeans**
   c. **The Australian business importing jeans to sell**
   d. **The Government of Australia**
2. **Write two sentences explaining why removing tariffs on imported products may be beneficial to Australian living standards.**
3. **Consider how the local producer (Company A) may respond to the higher prices charged by its competitor for their jeans (Company B) if Company A had the market power to raise their own prices.**
4. **Write two sentences explaining possible 'losers' in the removal of tariffs on imports into Australia.**

Application Exercise 8m: Tariffs on Australian lobster and barley exports



In late 2020, the Chinese government imposed an effective ban on the importing of rock lobsters (often shortened to just 'lobsters'). Technically, the action was a 'biosecurity' matter, whereby the government imposed extra customs inspections on the products, based on their concerns over contamination. At the same time, the country also banned imports of barley from some Australian companies, citing claims of 'dumping' – whereby the barley sellers were selling the product into the Chinese market at a price lower than it cost them to produce. China has also recently reduced imports of iron ore and imposed extra high tariffs on Australia's exports of wine to China.

But many observers claimed that the actions were more politically (and economically) motivated than based on a genuine concern over food safety or trading rules - following on as they did after Australia had called for an international inquiry into the origins of the coronavirus. China was, at the time, the main buyer of Australia's rock lobster exports, accounting for 94% of Australia's lobster exports in 2018/19. As a consequence of the ban, the impact on Australia's lobster industry was enormous. China was also an enormous market for barley from Australia

Questions/tasks
Choose a market or industry recently impacted by the imposition of trade protections by one of Australia's trading partners. (You could choose the lobster market, barley market, iron ore, wine or any other market of your choice.) Undertake an investigation into the impact of the Chinese bans on the industry. Write up a brief report or presentation (using slides) to give your class background on the topic. Content could include:

- **A brief outline of the ban/protection measure and what it entails**
- **An explanation of how the industry has been impacted in terms of**
  - **Value of sales/production**
  - **Jobs/employment**
  - **Local communities particularly impacted**

Why protection can harm an economy

Despite some reasonable arguments in support of protection, most countries agree with the notion that most forms of protection should be removed and that free trade should be pursued. Ultimately, free trade encourages a reallocation of resources in the economy towards those sectors or industries where Australia has a **competitive advantage** (i.e. can produce the goods and services relatively more efficiently compared to other countries), such as our mining and agricultural sectors, as well as services sectors, including tourism and education. The following types of arguments are typically used to support the notion that protection results in net costs for an economy as it leads to a less efficient allocation of resources.

- By shielding local producers from competition, protection reduces the incentive to be efficient. Essentially, protection 'props up' relatively **inefficient industries** at the expense of more efficient industries. This is because higher levels of protection reduce competition for local import competing producers and result in less pressure to minimise costs and prices.
- Assuming the protected industry is a producer goods industry (i.e. producing those goods that are inputs in the production process), protection **raises input costs**, increases prices and reduces the competitiveness of other producers. This is something the Productivity Commission is highly concerned about.
- The increased profitability of the protected industry in the short term gives it increased purchasing power over resources relative to other industries (e.g. can pay more for certain raw materials) which increases the cost for all firms. Protection can therefore act like a **tax on local producers**.
- Protection can contribute to **inflationary pressure** both in the short term (via higher import prices) and the longer term (via a reduction in efficiency and an erosion of competitiveness).
- The inflationary impact of higher tariffs or quotas tends to a **depreciate the exchange rate** over time, further penalising Australian producers as a result of higher cost of capital/intermediate imports.

Review questions 8.6

1. Define each of the forms of trade protection and illustrate the definition with an example.
2. Describe the impact of tariffs on imports into Australia on the relative price of Australian-made products (import-competing products).
3. Explain how tariffs can raise the input costs for some Australian businesses.
4. Outline three arguments in favour of trade protection in terms of improving Australian employment and living standards.
5. Explain three reasons why trade protection can harm the economy.
6. Define competitive advantage.
7. Describe how removing trade protection can lead to a reallocation of resources across the economy, and improved efficiency.

8.7 Trade liberalisation

As discussed, whilst **protection** can have benefits for some groups, particularly in the short term, it is generally accepted that it tends to result in negative outcomes for the economy in the longer term. This is primarily because higher levels of protection reduce competition for local import-competing producers and results in less pressure to minimise costs and prices. Accordingly, there is less incentive to improve efficiency and protection can also work to act as a tax on other Australian industries and therefore consumers.

Over time, foreign producers tend to become relatively more efficient as they are exposed to greater competitive pressures. They are then able to reduce prices and gain a foothold in the Australian market. Local producers, again under threat, once more seek the protection of government policies and ask for an increase in tariffs to 'protect Australian jobs'. This process becomes destructive as inefficiency of local import competing producers becomes entrenched, raising the cost structure of the Australian economy and increasing the likelihood that foreign governments will retaliate and protect their local producers from those Australian exporters that have a comparative advantage.

As a consequence, Australia has pursued the path of trade liberalisation in line with most other developed economies around the world in order to exploit the benefits that free trade provides. **Trade liberalisation** can be defined as any initiative that is designed to promote free trade or reduce restrictions or barriers to free trade with other countries. In its pure form, **free trade** means that countries can trade goods and services with one another in the absence of 'protection' or **'trade barriers'**. Ultimately, the government seeks to promote free trade because of its ability to boost national living standards.

Trade liberalisation is designed to force local businesses to restructure in an effort to combat higher levels of competition and then take advantage of any new opportunities by tapping into export markets. In 1973, the government announced a general 25% cut in tariffs, which marked the start of the large tariff reduction program in Australia. Average tariffs fell from 36% in the late 1960s to approximately 5% in the 2000s, before falling to less than 3% in 2022, which has resulted in lower prices for many manufactured goods over this time. Australia has been relatively aggressive in dismantling many forms of industry assistance other than tariffs (e.g. via subsidies) and has generally been a world leader in terms of reducing overall 'protection' (or the **effective rate of assistance**) to its industries over the last 20 years. While protection still exists in some Australian industries, such as film and television, the grounds for continuing support are typically based on non-economic factors. For example, in the case of film and television, the argument for protection is one based on a need to preserve Australia's culture and identity, and less on the need to protect production and jobs.

Increasingly in recent years, Australia's focus in trade liberalisation has moved towards developing more free trade agreements (FTAs), which contain several measures within each agreement that facilitate the freer trade in goods and services between the signatory countries. Australia has numerous free-trade agreements (FTAs) in force with countries such as Japan, South Korea, China, Singapore, the USA, Thailand, Malaysia and New Zealand and recent FTAs have been signed with Hong Kong, Peru and Indonesia. [The full list of Australia's FTAs in existence or under negotiation can be viewed at https://www.dfat.gov.au/trade/agreements/Pages/trade-agreements.]

Application Exercise 8n: Winners and losers from trade protection

Every year, the Productivity Commission (PC) produces a report on the level of trade assistance offered Australian industries from the government - the Trade Assistance Review. This includes the more obvious assistance, such as tariffs on imported goods or services, but it also includes the value of all subsidies and tax concessions to industry. The Commission is critical of many forms of assistance, as per the following extract from its latest report:

While government assistance benefits the recipient businesses, it invariably imposes costs on others.

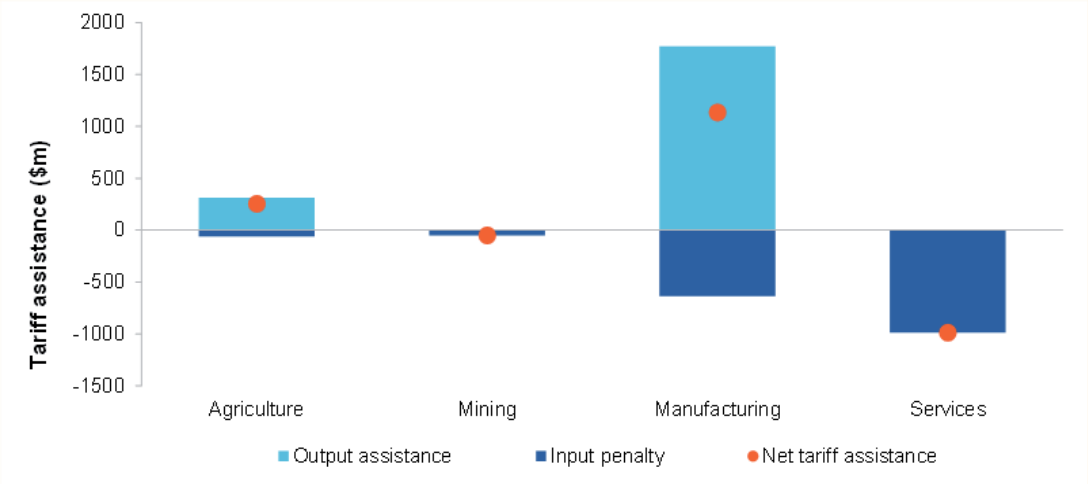
- Subsidies must be funded through additional tax revenue, debt, or forgone government expenditure elsewhere.
- Tariffs increase the prices of imports and locally-produced substitutes, which affects consumers and business input users.
- Regulations can provide an implicit form of assistance, with implications for costs and prices. Examples include local procurement rules, often used in defence procurement policy, or statutory barriers to entry, such as applies to pharmacies.

According to the most recent report published in August 2022, in 2020-21 net assistance across all sectors (including tariffs, subsidies and subtracting any tariffs the sector pays on its inputs) amounted to $16.2 billion, which was a significant increase on the previous year. The PC noted that this was mostly due to the 'extraordinary' circumstances of COVID-19 pandemic and support of particular industries. Very little of the assistance is in the form of tariffs, but rather direct assistance in the form of a subsidy – directed to particular industries.

Although currently, most Australian manufacturing has little direct protection from overseas imports, as tariffs have been progressively phased out over time, some industries do still have tariff protection. These include the passenger motor vehicle industry (PMVs) and textile, clothing and footwear manufacturers, which are still protected by tariffs (5%). The PC Review estimated that manufacturing received $2.8 billion in net assistance in 2020-21, largely due to tariff protection. In addition, the manufacturing sector also receives large amounts of direct government assistance in the form of subsidies and tax concessions.

As noted earlier, some have argued that protection 'protects local industry'. But Productivity Commission points out this protection only applies to some local industries. The PC estimates that tariffs add billions of dollars a year to business costs - because they add

to the price that Australian businesses pay for their imported inputs. The chart below shows that the greatest beneficiaries from tariffs in Australia are manufacturers, and that service providers in Australia are the industry most harmed by tariffs.



Source: Productivity Commission, Trade & Assistance Review 2020-21, p.14

Questions/tasks

1. **Explain why the Productivity Commission (PC) is concerned by many forms of 'trade assistance' provided by governments.**
2. **Explain the difference between tariffs and subsidy assistance to industries.**
3. **Describe what happened to trade assistance to Australian industry over 2020-21 according to the PC report.**
4. **Explain whether most assistance comes in the form of tariffs or other industry support. Provide evidence to support your answer.**
5. **Explain which Australian industries still receive net tariff assistance.**
6. **Use data from the chart provided to describe which industries receive the most (net) assistance and the least (net) assistance from tariffs**

Benefits of trade liberalisation

Key arguments in favour of trade liberalisation – the removal of barriers to trade – are summarised in Table 8.11 below

Table 8.11: Benefits of trade liberalisation	
Improves efficiency and Australia's international competitiveness	To be internationally competitive, Australian industries need to be producing goods and services at lower prices and/or higher quality compared to competitors overseas. Trade liberalisation exposes Australian producers to competition from cheaper and/or higher quality imports. It can impose a requirement for producers to focus on lowering costs and offering the products that best meet the needs of consumers. This can increase productivity (improving technical efficiency) and exerts downward pressure on prices. Australia's exports and import-competing industries will be able to compete more effectively on international markets.
Reduces input costs for local producers	Reduced tariffs on imports reduces the cost of production for firms who use imports in the production process. For example, the decline in tariffs on many manufactured goods (including motor vehicles) has helped to reduce production costs for other businesses that rely on those goods as inputs, including those businesses in the services sector of the economy such as those in the transportation industry (e.g. hire cars, passenger transport, etc.).
Encourages Australian producers to reallocate resources to more productive sectors of the economy (link to competitive or comparative advantage)	When protection is removed, the competitive market is free to do what it does best and allow efficient firms to prosper and less efficient ones to go through a period of decline or dislocation. This can lead to structural unemployment as some firms exposed to increased competition might not survive and may close or downsize (or relocate overseas). However, economists argue that the loss of jobs in less efficient industries should be short-term, because the resources that are released from those industries in decline can be redeployed in other industries. This increases the ability of Australian producers to sell exports into foreign markets. It can also mean that a greater volume of goods and services are produced because Australia is utilising resources in those industries who are responding to the needs of consumers (both in Australia and overseas). Therefore, trade liberalisation should contribute to the achievement of 'allocative efficiency' in the economy because our resources are likely to be reallocated in such a way that the net benefits for society, or living standards, are higher than before.
Improved economic growth over time with lower inflationary pressure	Removing barriers to trade reduces average costs of production (as explained earlier) and helps to reduce prices across the economy. Higher levels of productivity and lower prices help to improve economic growth and reduce inflation. By making Australian output more internationally competitive, trade liberalisation increases the potential size of our markets, also contributing to economic growth over time.
Improved average living standards for Australians	Lower average prices (on both imports and locally-produced products) along with increase output should lead to higher GDP per capita for Australians, and higher material living standards over time.

Australia's benefits from trade liberalisation

After reading Table 8.11, it should be apparent that Australia has benefited from the liberalisation of trade. The removal of tariffs on many manufactured items, along with the reduction of subsidies to agricultural industries, has seen a major restructuring of our economy. As would be predicted by theories about the benefits of freer trade, there has been a **reallocation of resources** away from the textile, clothing and footwear, whitegoods and car manufacturing industries, and towards mining and agricultural production and the provision of services in the tourism and education sectors.

Passenger motor vehicle (PMV) manufacturing did not survive Australia's move to trade liberalisation. The exposure of Australia's PMV manufacturers to global competition through removal of tariffs and the gradual reduction of subsidies were compounded by the rise in manufacturing competition from lower-wage countries. In late 2013 and early 2014, the last of Australia's manufacturers announced that they would close within two years. Despite the significant short-term loss of jobs as a result of the closures, economists have been keen to point out that, by providing ongoing protection for PMV producers in the form of tariff protection, grants and subsidies, the government was supporting an 'inefficient' industry. They argued that the resources allocated to the production of cars in Australia (such as the labour and capital, along with entrepreneurship) would be better allocated elsewhere – namely to the production of products in which Australia experiences a competitive cost advantage.

In line with the arguments in favour of trade liberalisation outlined above, advocates of freer trade have been keen to point out that Australians are net beneficiaries of the decision to remove tariffs on imported cars and import relatively cheaper cars from overseas, including from Thailand and Japan with whom Australia has free trade agreements. They note that the eventual closure of the PMV industry resulted in a more efficient allocation of resources – freeing up labour and capital to be re-allocated to those industries in which Australia was relatively efficient, such as mining, education and tourism industries.

This is not to say that there are not significant **transitional adjustment costs** that are faced by some members of the community when protection is removed. This includes those who become structurally unemployed (or long term unemployed). However, it is expected that many (but not all) of these costs will be short-term in nature and in the longer term, any costs will be outweighed by the benefits. In response, the Government typically provides assistance in the form of short-term funding and training support to help affected groups (such as those structurally unemployed) with the transition.

As noted earlier, the general commitment to free trade does not mean that trade should be completely liberalised for all of our goods and services, as there are a number of examples where it is in our national best interests to protect some industries, such as Australia's film and television industry. The COVID-19 pandemic also highlighted some potential risks associated with the unfettered embrace of free trade, with Australia experiencing temporary shortages of important products such as ventilators and personal protective equipment. Accordingly, there is a valid argument for protecting producers in these sectors to ensure that Australia is not exposed in the event of a future health pandemic or some other national disaster.

Application Exercise 8o: Other people's views

Class activity: Arguments in favour of and against trade liberalisation and protectionism

In groups of 3-4, choose 5 people from the following list. Based on the information so far in this section, identify the likely perspective of each person on the use of trade protection vs trade liberalisation. Identify three key arguments they could use to support their position.

- A former worker in the Ford factory in Geelong, who lost their job when Ford relocated all its production to lower wage countries
- An office manager in a dental practice whose staff rely on imported dental equipment
- A worker in a water-bottling plant in Fiji whose product is exported to Australia
- A farmer who exports their wheat to Japan
- A maker of bespoke handbags, whose small factory is based in Melbourne
- A lobster farmer in Tasmania
- A shareholder in BHP
- A worker in a large Bangladesh factory that makes clothing
- A Melbourne-based bus company that buys its new buses from a Chinese manufacturer
- A worker in a Sydney factory that makes medical equipment
- A lecturer at a small hospitality college in Melbourne that relies on the international education market for students
- A banker teller in Melbourne
- A hospital administrator having difficulty sourcing medical equipment from overseas
- A cleaner
- An Australian federal politician

Review questions 8.7

1. Define trade liberalisation.
2. Describe how Australia has liberalised its trade over the last forty years, providing examples.
3. Describe three benefits of trade liberalisation, and how each can improve living standards.
4. Describe how some groups might be negatively affected by trade liberalisation and outline whether this is a sufficient argument to adopt protection rather than trade liberalisation.
5. Describe whether there is an argument to protect some industries.
6. Outline two possible risks of liberalising trade 'too much'. Reflect on the recent experience of many countries during the COVID-19 pandemic and response.

Application Exercise 8p: Mix and match definitions on trade liberalisation

Complete the table below by matching the definitions in column B with the correct term in the list of terms at the end of the task. Then add in an example to illustrate your understanding (some examples have been provided in the list of terms).

Column A: Term	Column B: Definition	Column C: Example
	Cash payments to exporters or local producers (import-competing) to help cover production costs, allowing them to sell their output more cheaply.	
	An arrangement between two countries to reduce or remove restrictions on trade between the two countries that are signatories to the agreement.	
	Barriers to trade that don't use tariffs, but include licenses, bio-security measures and bans	
	A rationale for protectionism, based on the idea that newly-operating industries do not have the economies of scale that their older competitors from other countries may have, and thus need to be protected until they can attain similar economies of scale	
	Principle that two countries can both gain from trade if they focus on producing and trading in the product that they are more efficient at producing relative to another country	
	Indirect taxes levied by Government on imports to make them more expensive, relative to locally-made items.	
	An arrangement between a group of countries to reduce or remove restrictions on trade between all countries that are signatories to the agreement.	
	Principle that two countries should trade because they either can't produce a good or service at all, or produce it cheaply enough.	
	The progressive removal of all forms of protectionism in international trade including cutting or abolishing tariffs, reducing subsidies, abolishing import quotas, increasing free trade agreements, scaling back non-tariff barriers.	
	The idea that firms (or countries) can produce cheaper goods or services if they produce them in larger quantities, because they can spread fixed costs across a larger volume of output.	
	The spread of business and international trade across national borders as if there was only one large market.	
	Legal restrictions on the quantity or type of imports permitted into the country.	

List of terms:		
Tariffs	Import quotas	Globalisation
Comparative advantage	absolute advantage	Subsidies
Australia's production of coal	Economies of scale	Australia prohibiting NZ apple imports
Bilateral free trade agreement	Trade liberalisation	Pre-1973, average rate of 36% on manufactures
Infant industries argument	The EU pays	The Trans-Pacific Partnership
Multilateral free trade agreement	Non-tariff barriers	

8.8 Recent developments: a focus on Free Trade Agreements

In recent years, Australia has focused on negotiating **free trade agreements (FTAs)** with other countries. These are agreements between two or more countries which remove barriers to trade (such as tariffs or quotas) between all countries that are party to the agreement. Australia has long been a strong supporter of trade liberalisation with all countries on a global or multi-lateral (many-sided) basis. However, in recent years, attempts at multilateral trade liberalisation have stalled, with the World Trade Organisation (WTO) negotiations achieving virtually nothing since the beginning of the latest round in Doha in 2002. Consequently, Australia has focused its trade liberalisation reforms on negotiating a series of **bilateral free trade agreements** – agreements to free up trade between Australia and one other country.

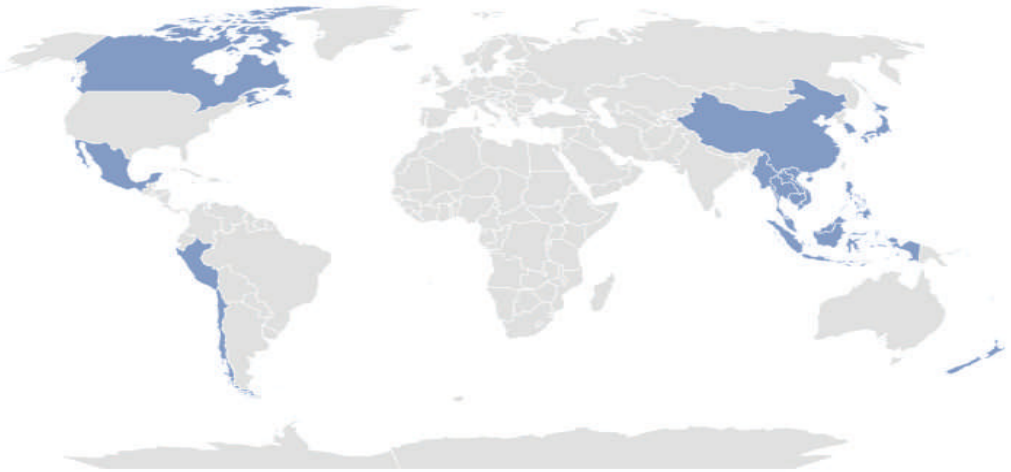
A glance at the list on the Department of Foreign Affairs and Trade website reveals Australia's recently-negotiated and planned FTAs are focused on the Asia-Pacific region – the world's fastest growing economic zone and our nearest neighbours.

The details of each FTA are specific to the agreement itself, but they generally involve removal of most tariffs on the trade of goods and services between the two countries, or within the region, and can also involve liberalisation of investment arrangements between the countries. This means Australia will reduce or eliminate tariffs on the imports from the country with which it has the agreement, and the country will reciprocate on Australia's exports that arrive as imports into that country.

As of October 2022, Australia has fourteen Free Trade Agreement in force, meaning trade is already taking place under the new liberalised trading conditions. Some of these are bilateral free trade agreements between Australia and one other country. Others are **regional partnerships** which involve liberalising trade between a group of countries. All of the countries with which Australia has some form of freer trading agreement are shown in the map contained in Chart 8.8 below.

Chart 8.9
Countries with which Australia has an FTA

United States
Japan
China
South Korea
Singapore
Thailand
New Zealand
Malaysia
Hong Kong
Peru
Chile
Indonesia
Brunei
Myanmar
Philippines
Vietnam
Laos
Cambodia
Canada
Mexico



In addition, Australia is a signatory to the PACER Plus agreement – the Pacific Agreement on Closer Economic Relations – which is a 'development-centred free trade agreement'. It encompasses many of Australia's key Pacific neighbours and enhances Australia's engagement, alongside New Zealand, in the Pacific region.

Application Exercise 8q: Research an Australian FTA

Visit the DFAT website and choose one of the many bilateral or multilateral free trade agreements Australia is a party to. Undertake research and create a brief report outlining the following:

- Signatories to the agreement and official name of the agreement
- When it was signed
- Key features of the trading relationship between Australia and the other country/countries in the agreement (value of trade, key items traded.)
- How the FTA will 'open up trade' from Australia's point of view – e.g. key trade items covered (which goods, which services), reductions in tariffs or other restrictions, is investment covered?
- Major 'selling points' of the agreement – what are the key benefits of the agreement outlined by DFAT?
- Which Australian industries are likely to benefit the most from the agreement?

The 'Turn away' from trade liberalisation

In recent years there has been a significant retreat from trade liberalisation among many of Australia's major trading partners. The US-China trade war has continued to escalate, despite having had significant negative impacts on both countries' economies. The conclusion of Brexit, with the departure of the UK from the European Union, is another example of a turn away from the global integration of markets and the opening up of trade. Australia has also suffered in the last few years from increased conflict in its political and trade relationship with China. Australia's exports of fresh produce, including barley, beef, lobsters and wine have all been negatively impacted by Chinese retaliatory tariffs or other trade restrictions in response to perceived political slights.

In addition, over 2019-20, there was a breakdown in the power and influence of the World Trade Organisation (WTO), which is the international body set up to promote free trade and settle international trade conflicts. There have also been reports of an increase in 'less overt' protectionist measures, such as a greater government preparedness to support or bail out businesses, the instigation of more **non-tariff barriers** (such as quarantine/safety measures restricting imports), and/or the willingness to offer tax concessions or rebates to exporting businesses.

As noted earlier, the coronavirus pandemic has also seen some new elements of 'trade protectionism' as some countries resort to 'vaccine nationalism' – prohibiting local vaccine manufacturers from exporting vaccines to overseas destinations. Early in 2021, the Australian Government was involved in a dispute with European regulators relating to the export of vaccines from Germany to Australia.

Some commentators fear that the pandemic may lead to the longer-term closing of international borders. While short-term border closures and restrictions on the movement of people was an inevitable part of the public health response to the pandemic, some suggest that the crisis itself has highlighted the vulnerability of many countries. For several decades, Australia has scaled back its manufacturing sector, based on the recognition that Australia does not hold a competitive advantage in most manufacturing. But long global supply chains and reliance on importing key manufactured items (from face masks to ventilators and other key medical equipment) meant it was difficult for Australia to access crucial products during the coronavirus pandemic. The heavy reliance of Australia on exporting raw materials and importing simple and elaborate manufactured products has come under question in recent years. The most recent federal budget included an announcement of $2.5 billion towards improving manufacturing capability, including securing supply chains and the country's self-reliance in the face of supply chain interruptions. In addition, the reliance of Australia's university sector on international students has also exposed the vulnerability of some sectors of our economy when global economic conditions take a turn for the worse. [This was considered in detail in Application exercises 8h and 8m earlier in this chapter.] It will be interesting to see the longer-term impacts of recent events on the future of trade liberalisation.

According to the Productivity Commission, Australia would be a genuine loser overall if significant trade protections were to re-emerge globally. It estimates that over one percent of GDP every year (and close to 100,000 jobs) would be lost. And living standards would fall with households on median weekly income worse off by nearly $1500 a year.

Review questions 8.8

1. Define 'free trade agreement' and differentiate between a 'bilateral' and a 'multilateral' free trade agreement.
2. Describe the geographical pattern of Australia's free trade agreements currently in force and provide one economic reason for this pattern.
3. Define 'non-tariff barrier' and explain how these have been used to interrupt trade in recent years.
4. Describe the evidence for a 'turn away' from trade liberalisation globally in recent years.
5. Describe the potential 'losses' for Australia if significant trade protections were to re-emerge globally.

8.9 The role of technological change and division of labour in international trade

Advances in technology: transport and ICT

When the computer chip was invented in 1971, it would have been hard to predict the enormous effect it would have on the global economy. In the second half of the twentieth century, radical advances were made in the development of information and communications technology. From the 1950s, the mass availability of television meant that news and information from around the world could be beamed direct into people's homes, connecting the world in unprecedented ways.

The Internet is often thought of as a relatively recent phenomenon, but it has its origins in military technology in the 1960s. University networks developed on that technology, which was formalised into a world wide web in the early 1980s, and became commercialised in the 1990s. It cannot be disputed that the importance of the Internet to our everyday lives has increased exponentially in recent years. Just like the invention of the telegraph and the telephone were crucial in earlier periods of global economic integration, the acceleration of the development of information and communications technology has allowed a degree of global interconnectedness unparalleled in the past.

It was really in the mid-1990s that the Internet started to have an enormous impact on the global economy, and also on culture. The key effects on business in terms of international trade and economic globalisation have been enormous, as summarised in Table 8.12 below.

Table 8.12 Advances in Internet and digital technologies encouraging international trade and globalisation

Business activity	Examples	Specific uses and benefits
Communication	Email, IM-ing, video and VoIP	• Almost instant communication • Extremely cheap phone calls using Voice over Internet Protocol • Seamless, cheap instantaneous communication between branches in different countries • Relocating call centres to low-labour cost countries • 'Following the sun' 24/7 customer service • Social media provides direct-to-customer communication
Finance	Electronic funds transfer Rise of online-only banks	• Easy transfer of financial assets globally contributed to the development of a complex international financial system. • More online-only banks in operation providing reduced operation costs and global operation • Rise of 'fintech' services
Manufacturing	Instant digital file transfer, computer aided design (CAD) Machine learning & Robotic Process Automation	• Locally-designed products (e.g. in Australia), specifications sent to a manufacturer in low-labour cost countries • Robotic Process Automation allows a computer program to replicate processes that would normally be done manually by a human such as opening emails, open and read attachments, and make decisions based on programming
Retail	E-commerce The Internet-of-Things	• Online shopping allows retailers to sell to a global market. • Devices used in everyday life (e.g. fridge, security systems, TVs, lighting, heating and cooling, and 'smart home' devices like Google Home) are connected to the internet and able to send and receive data. Businesses can collect more data on customers and customers can instantly access information and control devices remotely.
Personal services	Remote service provision by using broadband Internet	• Remote provision of education services like lectures at remote locations • Technicians at central locations reading and reporting on medical scans and tests taken at remote locations • Remote operation of mines in north—western WA from an office in central Perth
Entertainment	Broadband internet and video streaming	• Video streaming, on-demand services such as Netflix, Stan, Amazon Prime, and catch-up TV services like ABC iView are able to reach a global audience at minimal marginal costs for the producer to provide the service to each new customer.

Many of the developments in communications have enabled an increasing international trade in services. Whereas in the past, most international trade was in goods, services can now be readily traded across vast distances. Economists point out that the fastest growing sectors of the economies of the advanced countries have been services. Until recently, most trade has consisted of exchanges of merchandise – manufactured goods, mining and agricultural commodities. However, the production of services has become increasingly integrated into world trade and globalisation, as shown in Application exercises 8r and 8s.

Application Exercise 8r: Financial Services, technology and globalisation

Australia's financial services sector has undergone rapid transformation in recent years with the rise of 'Fintech'. Fintech is short for financial technology – computer programs and other technology used to support or enable banking and financial services. As one report stated 'If you've ever paid for something using your phone, transferred money by using an app, or checked your bank statement online' you've used 'fintech'. Three other familiar example of fintech are the rise of cryptocurrencies such as Bitcoin, crowdfunding apps like Kickstarter and Patreon, and buy-now, pay-later services such as AfterPay.

There has been more than US$500 billion invested into the fintech sector since 2010. In 2019, 75% of people globally used fintech for money transfer and payments, 34% used them for 'savings and investments' and 27% used them for borrowing. Australia continues to be an early adopter of these technologies.

Key industries impacted by the advance in fintech include:

- Accounting / book-keeping – the introduction of RPA – robotic process automation, where computer programs are able to automatically receive and process invoices and pay accounts (which are the types of high volume, repetitive, rules-based processes that automation is most suitable for.)
- Banking – Fintech has allowed a number of companies to create apps that help people buy things and borrow money with less involvement of the traditional banks. These include peer-to-peer lending platforms, where individuals borrow and lend directly to each other, without going through a bank. They also include digital-only 'neobanks' such as Up Bank and Xinja.
- Retailers –Some of the world's largest, like Alibaba and Apple, have created their own payment systems – Apple Pay and Alipay, and tech giant Google now has Google Pay.
- Buy now pay later services (part of retailing) such as AfterPay and Zip.
- School canteen payment services where parents deposit money into a student 'account' and the student can use it to pay for items at the school canteen.
- Wealth managers – They now have to compete with automated financial planning services, sometimes called 'robo advisers' which provide investment management at a fraction of the cost of traditional advisers.

In addition, fintech provides increased access to financial services for the more than 2 billion people worldwide who do not have bank accounts but do have mobile phones. For example, 96% of households in Kenya use a phone-based app called M-PESA to transfer money, pay bills and take out loans.

The key theme of all these forms of technological advancement is that they allow for more globally-interconnected service provision and the spread across national borders of large corporations that offer fintech services, along with small and innovative technology developers.

There have been concerns raised about potential risks of the rise of fintech. For example, unlike traditional banks, these fintech services are barely regulated (including not being required to guarantee the lender will receive repayment of their loan!). In addition, concerns have been raised about data privacy. Firstly, as more financial services go digital, cyberattacks become a greater risk. Secondly, there is no guarantee that information provided when using apps is stored safely, or not on sold to marketers and other big data harvesters.

Questions/tasks

1. **List five examples of fintech that you are aware of or have used recently.**
2. **Make a list of the potential benefits the increase of fintech may provide for small businesses and Australian consumers.**
3. **Outline the potential economic costs to Australian industries where fintech is getting a foothold.**

Extension: Use the Internet to research one example of fintech and produce a list of possible benefits and risks or costs of the specific product innovation for consumers, Australian business and the Australian government.

Application Exercise 8s: Technology and the trade in services - Following the sun

Following the sun, or chasing the sun, refers to an approach that allows companies to continue to operate on a 24-hour basis, without having to operate 24-hours a day in one location. Workers in any one location only work a standard working day – and therefore don't need to be paid penalty rates. Projects can continue to be worked on constantly – and this approach started as a way of delivering customer service 24 hours a day. At the end of the their standard work day, workers handed off the role of answering phone calls and dealing with customer queries to workers in another location that had just 'come online'.

Although it is most commonly used in provision of customer service, follow the sun can also be used in designing products or working on projects. One possible benefit is that a group of people in various locations is working on the design project and handing the work over to another team at the end of their work day. This can speed up the time it takes to prepare a report, write a submission to bid for a project (e.g. in architecture), or even interpret medical scans and tests ready for delivery to patients the following day.

How has technology contributed to this ability to globalise service provision? Technology has enabled organisations to integrate phone systems, so that any customer calling a shared number is connected to whichever call centre or service centre that is open (where the sun is shining!) – regardless of where the customer is located. In addition, integrated computer systems allow any worker in the organisation to access the same systems and details regardless of location.

Examples include:

- iiNet – call centres in Cape Town, Perth, Adelaide and Auckland means they operate across four time zones.
- IBM - used follow the sun to develop some new software applications.
- Medical imaging services that transfer files to staff located in other locations for overnight analysis.

Questions/tasks

1. **Identify two possible economic benefits for a company being able to 'follow the sun' in service delivery.**
2. **Outline two possible economic risks or costs for companies choosing to use the 'follow the sun' approach to delivering customer service.**
3. **Outline how technology has allowed companies to 'follow the sun'.**

Developments in transport technology have changed the way the world does business, allowing an exponential increase in the trade in goods. Super tankers and container ships carry larger and large quantities of goods, including oil and grain. As a result, trade has become increasingly international. For a case study on the rise and rise of the shipping container, see Application exercise 8s.

Application Exercise 8t: No globalisation without the shipping container?

Until the 1970s, almost all goods were shipped around the world loose. They were loaded into the holds of old-fashioned cargo ships. The invention of the shipping container completely streamlined the international trade in goods. Some historians argue that the modern acceleration in globalisation could not have come about without 'containerisation'. Professor, Jean-Paul Rodrigue, was quoted on ABC Radio's Rear Vision saying:

> ***Essentially globalisation could not have existed without containerisation. It goes hand in hand. That is, all the outsourcing, off-shoring of large manufacturing activities in developing economies could have been made possible because of the container.***

In many of our minds, trade equals images of large boats stacked high with brightly coloured, uniform-sized shipping containers. Indeed, the International Standards Organisation specifies the dimensions of shipping containers so there is a limited number of standardised sizes. This means all container ships, trains and trucks are designed to carry the exact same- sized boxes. It also means that the speed of loading and unloading ships has accelerated exponentially.

New ports were built that could hold cranes to load and unload the containers from the ships. These new ports transformed cities. Prior to containerisation, the local docks would have been a lively area, central to any port city. Large numbers of local dock workers (who lived nearby) unloaded cargo by hand, providing a boost to the local community whenever a 'boat came in' to port. This process took quite a long time – a large ship could take weeks to unload and reload. If you live in Melbourne, you may be familiar with the suburb of Docklands (home of Docklands stadium). This was once a bustling port, and all of Melbourne's trade passed through it. Nowadays, the Port of

Melbourne is much larger and farther from the centre of the city, to accommodate the much larger size of the new container-carrying transport ships. A ship carrying 7,000 containers can be unloaded and reloaded with new cargo in less than 24 hours.

The increasing use of technology inside the shipping containers has also increased the variety of what can be transported. Refrigerated containers, tanker containers and freezer containers keep food and flowers fresh for long voyages. The strength of the steel containers reduces the risk of damage or spoilage on long sea journeys. The improved speed of loading and unloading and the economies of scaled achieved from the increasing size of container ships and ports have also significantly reduced the cost of transport.

One figure sometimes quoted is that, for a pair of sneakers made in China and sold in the USA for $150, only 25c of the cost of production is transport. One story told is that it is cheaper to ship Scottish cod (a type of fish) 10,000 miles to China to be filleted and then sent back to Scotland, than it is to pay Scottish filleters to do the job. Clearly this is a case of two of the key drivers of globalisation – international division of labour and advances in technology - combining to drive down costs.

The growth of China and the industrialisation of China I don't think would have occurred to the same degree as it has without the container. And I think that globalisation, for better or for worse, has been one of the products of containerisation. *Geography Professor, Brian Slack*

Questions/tasks

1. **Explain why the interviewees in this story say that, without containerisation, globalisation could not have accelerated as it did.**
2. **Explain two ways in which containerisation has reduced the cost of transport, and therefore goods. In your answer, refer to how it has affected the use of the labour and capital inputs to the production process.**
3. **Explain how the example of the Chinese workers filleting Scottish cod, to be exported back to the Scottish market is an example of how both changes in technology and the international division of labour have accelerated global integration of the production process.**
4. **Identify 10 things you have ever bought that would have travelled to Australia in a shipping container.**
5. **Calculate the estimated contribution of the cost of transport to the price of a pair of sneakers (in percentage terms) included in the story. Does this figure surprise you? Explain why or why not.**
6. **Use the figure from Question 5 to calculate the contribution of transport costs to the price of three of the items you purchased that you listed in Question 4.**

International division of labour

The theory behind the **division of labour** is that productivity, and consequently output, will be improved by developing labour specialisation. This means that tasks in the production process are broken down and divided up, and workers are assigned particular stages or tasks in that process.

One key contributor to increased international trade and economic globalisation has been that firms have taken advantage of **differentials in wage rates** across different countries to divide up the location of labour tasks, in order to minimise production costs. Free trade and globalisation allow firms to produce in countries which hold a labour cost advantage (relatively lower wages), and export to countries where wages are higher.

In many industries, including manufacturing and service provision, **labour costs** represent a high proportion of the cost of production. It therefore makes sense that businesses transfer the **labour-intensive** aspects of their production process to countries with lower wage rates, to take advantage of these lower input costs. These countries have a **labour cost advantage**. Countries like the Philippines, China and India have substantially lower costs of labour in manufacturing than countries like the United States and Australia. Historically, as economies have developed, the wages in those countries have risen. This is because of the circular flow of the economy, explained in Chapter 6, where increases in output ultimately lead to a larger return to the productive resources used to produce that output. Western, industrialised countries have also historically had better organised labour, and the pool of unskilled, and thus cheaper, labour has shrunk as the development of the country has proceeded with increased education and social mobility.

The labour cost advantage experienced by lower income countries has been exacerbated in recent years. The rise in technology has increasingly made it possible to move goods and services around the globe more readily and rapidly, and so this approach to manufacturing has replaced the old one of producing in the country where the product will be consumed. Consequently, a new **global system of production** has replaced the old model, with the reduction in transportation costs playing a significant role . Countries that previously focused on producing raw materials and food now increasingly manufacture and **value add**.

The wage differential (i.e. the relative price of labour) can be so significant that even capital-intensive industries have relocated to low labour cost economies. A labour cost advantage means that lower wage economies that skill up their workforce can attract skilled manufacturing jobs. While this change was initially strongest in the manufacturing sector, increasingly outsourcing has affected service industries in recent years.

The movement of manufacturing processes to low wage countries does not mean, however, that the owners of the manufacturing companies are located there. Much of the manufacturing done in low wage countries is undertaken by, or on behalf of, **transnational corporations**, also called multinational corporations (MNCs). Increasingly, large global corporations sub-contract their manufacturing needs to local owners who operate the factories themselves.

Review questions 8.9

1. Describe two technological advances that have encouraged increased international trade in goods, including how they have reduced costs of production for firms.
2. Describe how technological advances have contributed to the global trade in services.
3. Explain which countries are seen by multinationals as low-wage countries.
4. Explain how differences in wages across nations can lead to an international division of labour and how this contributes to increased international trade and globalisation.

8.10 Exchange rates

The value of the exchange rate

Every country has its own form of money, or currency. To engage in financial transactions with other countries a person needs to purchase the currency of that country. The exchange of Australian dollars for other currencies takes place in the foreign exchange market.

The number of Australian dollars that you must pay to buy a particular currency is known as the exchange rate. Australia's **exchange rate** is usually measured by the value of AUD compared to the United States Dollar (USD) or the **Trade Weighted Index (TWI)**. The TWI is the average value of the AUD compared to a weighted basket of foreign currencies of Australia's trading partners. For example, as at the 21st of October 2022, the exchange rate was quoted as AUD/USD 0.62 or a TWI of 60.0, which compares to a rate of AUD/USD 0.74 or TWI of 62.3 one year earlier. This indicates that the exchange rate **depreciated** over this time – meaning it fell in value against both the USD and the currencies of most countries Australia trades with.

Why do exchange rates change?

Since the '**floating**' of the currency in 1983, the value of the exchange rate is primarily determined by the forces of demand and supply. The demand ultimately comes from overseas residents seeking to pay Australians with AUD. This could be for the purchase of Australian exports or other assets (e.g. property or bonds). The supply primarily comes from Australians wishing to sell AUD on the foreign exchange market (e.g. for the purchase of imports or other foreign assets). Importantly, the demand and supply of the AUD (and all currencies) also comes from foreign currency speculators who profit from buying currencies at one price and selling at a higher price.

Demand for the Australian dollar

Australian dollars are demanded in the foreign exchange market (which can be anywhere in the world) whenever a person, business, government or other organisation wants to convert a foreign currency into Australian dollars. The foreign currency is supplied to the foreign exchange market in exchange for Australian dollars, which results in an increase in the demand for Australian dollars. The events that cause demand for the AUD are summarised in Table 8.13 below, along with an example.

Table 8.13: Factors causing demand for Australian dollars (AUD)

Factors	*Example*
Foreigners buying Australian exports convert their currency into AUD	*Tourists or international students travel to Australia from overseas (they need AUD to pay Australian businesses)*
Foreigners pay income to Australians who have assets overseas (e.g. Australians who own foreign company shares or foreign bonds)	*Apple pays dividends to its Australian shareholders or the US government pays interest to Australian bondholders*
Money is transferred from a foreign country to Australia as secondary income	*NZ-based grandparent sends money to their grandchild for their birthday*
When foreigners buy Australian assets (investments) such as shares or property	*Uniqlo sets up an Australian store, so they need to convert their Japanese Yen into AUD to pay local contractors and employees*
Foreigners lend money to Australians	*CBA borrows money from Citibank (US-based) because US interest rates are lower than Australian rates or the Australian government sells bonds to overseas investors*

Each of these transactions have one thing in common. They are all recorded as a credit in the Balance of Payments. Therefore a credit transaction in the Balance of Payments will be reflected by an increase in the demand for the AUD.

Supply of the Australian dollar

Australian dollars are supplied to the foreign exchange market whenever the Australian dollar is needed to purchase a foreign currency. The events that cause supply of the AUD are summarised in Table 8.14 below, along with an example.

Table 8.14: Factors causing supply of Australian dollars (AUD)

Factors	*Example*
Australians buying foreign imports convert their AUD into foreign currency	*Australian tourists travel to Bali, they need to sell AUD to buy Indonesian Rupiah to use in Balinese businesses*
Australians pay income on foreign-owned assets in Australia e.g. dividends, interest, profits or rent paid to foreigners	*BHP pays dividends to its US shareholders or the Australian government pays interest to foreign bondholders*
Australia provides overseas foreign aid	*Oxfam funds a clean water project in Sierra Leone, West Africa*
Australians purchase foreign assets such as shares or property	*UniSuper buys shares in a fund listed on the New York Stock Exchange or Cotton On builds a factory in China (they need to sell AUD to buy local currency to pay locals for their labour and materials)*
Australians lend money to foreigners	*Westpac lends money to Auckland Savings Bank in New Zealand*

Each of these transactions is recorded as **debits** in the Balance of Payments and require the conversion of Australian dollars into a foreign currency. The exchange rate and the quantity of AUD traded on the foreign exchange market is determined by the interaction between demand for and supply of the AUD on that market.

Just as in markets more generally, factors that increase the demand for the AUD will tend to lead to an appreciation of the AUD, while factors that lead to an increase in supply of AUD (at all prices) will tend to result in a depreciation of the AUD – a fall in its price, and a lower equilibrium quantity traded. On the other hand, factors that lead to less demand for the AUD will bring about a lower price, and factors that lead to less supply will bring about a higher price.

The equilibrium exchange rate changes on a second-by-second basis, as millions of international transactions are undertaken each day. A range of factors can influence the exchange rate, and new economic information can result in a rapid appreciation or depreciation of the exchange rate. An **appreciation** of the exchange rate means that one Australian dollar can now purchase a greater amount of a foreign currency. A **depreciation** means that the Australian dollar can now purchase less of a foreign currency.

Application Exercise 8u: Exchange rate scenarios

For each of the following scenarios complete the table indicating whether it would affect demand for or supply of the AUD on the foreign exchange market by causing it to rise or fall, and the impact on the exchange rate. The first one has been done for you.

Scenario	Affects supply of or demand for AUD ↑ or ↓	Explanation	AUD ↑ or ↓
BHP pays dividends to German shareholders	Supply ↑	BHP sells AUD to buy foreign Euros	↓
A group of UK tourists visit Melbourne			
Telstra buys large amount of telecommunications equipment from China			
Harvey Norman imports a container load of TVs			
Australian miners sell lithium to Japan			
Australian government receives interest from USA borrowers			
Woolworths buys bottled chillies from India			
Paul and Coco send money to relatives in Shanghai			
Tesla pays dividends to its Australian shareholders			
A large number of international students come to study in Sydney			
Fortescue pays a Panama shipping company to carry its coal to Shanghai			
Angus comes to Australia from Ireland to work at an IT company and brings 2,000 Euros			

Factors affecting the value of the exchange rate and trade

As noted above, the value of the Australian dollar exchange rate is determined according to the interaction of the demand for and supply of Australian dollars on the foreign exchange market. There are several factors that influence the demand for and supply of AUD on the foreign exchange market, and these are summarised in Table 8.15 below.

Table 8.15: Factors affecting the value of the AUD exchange rate and Australia's trade

Factor	Explanation
Demand for and supply of exports and imports	When Australians demand more imports, there is an increase in supply of the AUD. When foreigners demand more Australian exports, there is an increase in demand for the AUD. The reverse is true when there is lower demand for imports and lower demand for exports.
Overseas rates of economic growth	Economic growth in the rest of the world (especially our trading partners) increases the demand for our exports, especially the commodities in which Australia specialises. Growing affluence in the Asian region has seen increased demand for Australia's ser-vices exports, such as tourism and education.
Strong economic growth in Australia	When Australia's economy is growing strongly, it can mean Australia is buying many more imports to support domestic industries (imported inputs). This can lead to more import spending (supply of AUD) relative to export earnings (demand for AUD) leading to a depreciation.
Improved international competitiveness	If Australian producers can improve productivity growth, it can raise the international competitiveness of Australian products by allowing them to charge lower prices while maintaining profitability, and this can improve demand for Australian made products, and thereby increase demand for AUD.
Relative interest rates in Australia compared to over-seas	Interest represents the reward for saving. When interest rates rise in Australia compared to other countries, there will be a flow of capital into Australia seeking higher relative returns, which means they are lending to Australians. This will contribute to the demand for AUD, and appreciate the AUD. In simple terms, you can think in terms of overseas savers depositing their money (financial capital) in Australian banks or overseas investors purchasing Australian bonds, whose rates (or yields) will be relatively higher than those on offer in their home countries. This movement of money into Australia is commonly referred to as capital inflow.
Investment (equity) flows	When Australians are incentivised to invest more (for example buy more shares on foreign stock exchanges, due to higher performing markets), there will also be increased flows of capital out of Australia, increasing supply and depreciating the AUD. An increase of foreign purchases of Australian shares will increase demand for the AUD and contribute to an appreciation of the dollar.
Changes in preferences and tastes	When Australians desire more goods and services from overseas as consumer preferences change, this can affect demand for imports, and hence the AUD.
Prices of Australia's com-modity exports	Australia is a significant exporter of commodities, and these are generally priced on a global basis. In other words, Australian exporters receive a price determined by the global demand for commodities, rather than demand for specific Australian products. Increased global demand (or restrictions in foreign supply) for commodities such as iron ore, coal, copper, gold, aluminium, wheat, barley, beef and lamb all lead to higher prices for these products. This means that for given volume of exports of these com-modities, Australian exporters will receive more money. Since this money will need to be converted into AUD, this will create demand for the AUD and lead to a higher AUD. (In Units 3 and 4 you will study the terms of trade, which is an index of the relative price of exports and imports, as an important influence on the AUD exchange rate.)

Review questions 8.10

1. Explain what is meant by the floating exchange rate.
2. If the news reported that the Australian dollar (AUD) had appreciated what would this mean?
3. If the news reported that the AUD had depreciated, what would this means?
4. Describe five transactions that would decrease the demand for the Australian dollar.
5. Describe five transactions that would increase the supply of the Australian dollar.
6. Describe how each of the following events is likely to affect the AUD exchange rate, making reference to supply of or demand for AUD on the foreign exchange market in your answer.
   a. Rising economic growth in China
   b. Increased Australian government selling of bonds to overseas investors
   c. Higher rates of productivity growth in Australia
   d. A fall in world commodity prices
   e. Increased foreign equity investments in Australia
   f. Low rates of inflation in China, making imports from there much cheaper for Australians
   g. Increased rates of foreign ownership of Australian shares, come dividend payment time
   h. Australia's interest rates fall compared to those in the USA

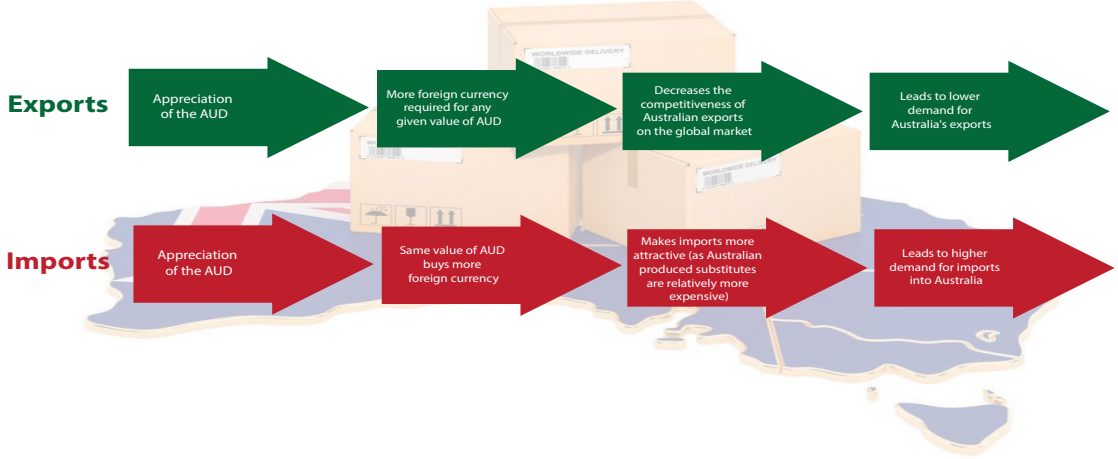
8.11 The effects of changes in the exchange rate on trade

Exchange rate changes over time are one of the key economic factors influencing Australia's capacity to trade and our economic prosperity. Overall, having a floating exchange rate means that it adjusts to the economic conditions in the country and prevailing across the globe at the time. It tends to appreciate at times of strong economic performance in Australia, since Australia will likely be selling more exports to overseas (net exports rise – such as during the recent mining boom). The rising exchange rate then tends to dampen economic growth, by reducing the competitiveness of our exporters and import competing producers.

In contrast, when our economy is weak (e.g. during a downturn or recession), and net export growth is low, the AUD will depreciate, which then encourages more demand for Australian exports and less demand for imports (i.e. demand for net exports rise), which then helps to fuel economic growth and assist with the economic recovery out of the downturn (or recession).

In general, when the Australian dollar appreciates, this encourages a greater demand for imports and lower demand for exports. However, how this affects the overall value of net exports is a little more complicated as it depends on factors such as whether Australia is a **price taker** (or price maker) in global markets as well as the **price elasticity of demand** for exports and imports, factors that will be considered in Unit 3 Economics. Despite this, it is accurate to say that an appreciation will contribute to an increase in the demand for imports and a decrease in the demand for exports, negatively influencing aggregate demand and economic growth. This is summarised in Figure 8.2 below and the reverse is true in relation to a depreciation of the exchange rate.

Figure 8.2
Effect of an appreciation of the Australian dollar



Application Exercise 8v: Converting currency

Students can struggle to understand the impact of changing exchange rates on international trade. The exchange rate is important for importing and exporting. In simple terms, a higher exchange rate makes it cheaper for Australians to import and a lower exchange rate makes it cheaper for those overseas to buy Australia's exports. Complete the following exercise to consolidate your understanding of the impact of changing exchange rates on transactions.

Exchange rate	Price in AUD
AUD1 = USD0.85	$30
The AUD appreciates to AUD1 = USD1.50	-
The AUD depreciates to AUD1 =USD0.50	

1. **Arianne and Chiara each want to buy a pair of designer jeans from the US that cost USD150. Calculate how much Arianne and Chiara will have to pay for each pair of jeans at the adjacent exchange rates**
   a. **Describe what happens to how much they will have to pay for the imported jeans when the AUD dollar:**
      i. **Appreciates**
      ii. **Depreciates.**

Exchange rate	Price in CNY
AUD$1 = CNY$5	
The AUD appreciates to AUD1 = CNY $10	-
The AUD depreciates to AUD1 = CNY $2	

2. **Zara is an EXPORTER. She sells accommodation to Chinese holiday makers at her property on the Gold Coast. One night's accommodation is AUD180. Calculate how much the Chinese customers have to pay at the exchange rates in the adjacent table**
   a. **Describe what happens to how much Chinese customers pay per night for their Australian holiday when the AUD dollar**
      i. **Appreciates**
      ii. **Depreciates.**
3. **Explain whether the amount of AUD that Zara receives from the Chinese holiday makers per night changes when the exchange rate changes.**
4. **Referring to the answers you have just completed explain why exporters prefer a 'low' AUD exchange rate and importers (including Australian tourists travelling overseas) prefer a 'high' AUD exchange rate.**
5. **Evaluate the effect of a depreciation of the exchange rate on the economy (producers and consumers). In your answer, explain one positive effect and one negative effect.**

Review questions 8.11

1. Explain how a floating exchange rate can act much like an automatic stabiliser in the economy.
2. Describe the impact of an appreciation of the Australian dollar exchange rate on exports.
3. Describe the impact of a depreciation of the Australian dollar exchange rate on imports.

8.12 Different perspectives on international trade and globalisation

Household perspectives

Australian households have been impacted in many ways by increased international trade and the globalisation of the economy, as is evident from the discussion of trade and globalisation so far in the chapter. There are, as a result, a variety of perspectives on increased global trade and the integration of the global economy.

Increased trade has helped contain inflation

The Reserve Bank of Australia's website publishes historical tables of the inflation rate, as measured by the Consumer Price Index (CPI). **Inflation** refers to a rise in the general level of prices. Rapid inflation leads to a deterioration of the **purchasing power** of individuals if their incomes do not increase at the same rate as prices. In simple terms, a steady but not too rapid increase in average prices is desirable. If inflation is too rapid, it creates problems for consumers, businesses and the government.

Between 1970 and 1989, Australia's annual inflation rate averaged 9.4%. However, since then, the annual rate has averaged a much lower 2.7%. If we estimate that these two periods correspond roughly with the pre-globalisation era and the post globalisation era, it is evident that globalisation and increased international trade has contributed to the relatively low rates of inflation experienced by Australia over the past 20 years. It is important to recognise that other factors also influenced inflation during that period. This included effective inflation targeting by the RBA and a host of other microeconomic reforms that were implemented over this time.

Increased international trade has contributed to reducing the CPI in Australia by exposing Australian businesses to greater global competition as outlined earlier when discussing the benefits of trade liberalisation. International trade has meant cheaper prices of many products, including white goods, clothing, shoes and electronics such as computers, phones and televisions, along with vehicles for Australian households.

Increased consumer choice and access

Increased global trade has enabled Australian households to access a large variety of consumer products and services from throughout the world. A key emerging trend in the Australian (and global) economy has been increased use of ecommerce by businesses and households. Ecommerce refers to the buying and selling of goods and services over the Internet. Statista reported that Australians would spend close to $50 billion on online shopping in 2022. Eight out of 10 Australians shop online at least some of the time. Around 40% of Australians' recent ecommerce purchases were from China, 21% from the US and 14% from the UK. Australian consumers have been attracted by the ability to access a much larger market, reduced search time, convenience, increased access to product reviews, free shipping and lower prices.

Despite the increased access to cheaper goods and services brought about by increased global division of labour and economic integration, some consumers continue to be concerned about the potential impact of global trade on the human rights, including the incidence of exploitative working conditions and poor welfare of workers in some developing countries. Application exercise 8w considers the issue of modern slavery.

Application Exercise 8w: Tackling modern slavery

For students in 21st Century Australia, it may be difficult to believe that slavery still exists. The traditional view of slavery is that people are chained up and controlled, or bought and traded like property. However, in recent years, there has been an increasing awareness of the continued existence of modern forms of slavery, which encompasses exploitative practices including:

- forced labour
- bonded labour
- human trafficking
- child labour

Adults who have been forcibly detained (bonded labour) and children work in industries such as fishing, cocoa, cotton, clothing and construction, as well as in the illegal markets for cannabis and prostitution. The International Labour Organisation estimates that there are around 21 million people worldwide in forced labour, and half of those are in the Asia-Pacific region. These people can be subject to control, such as limitations on their movements, lack of pay for the work they provide, and being forced to work in appalling conditions with no ability to leave.

Researchers of modern slavery note that current global conditions and improvements in technology help to create a workforce that is very vulnerable to exploitative practices. In particular, they note that business operations are increasingly driven by the search for ever-lower labour costs. This has led to companies creating extremely complex supply chains where they outsource the labour to produce their products, and leave it up to local labour suppliers to monitor the workers' conditions. This can often contribute to the proliferation of slave-like working conditions, where workers are trapped in their workplace or unable to argue for adequate working conditions. Australian consumers are largely unaware of the risk that products they consume may have drawn on slave labour in other countries.

The Global Slavery Index (www.globalslaveryindex.org) estimates that on any given day, there could be up to 15 000 people living in conditions of modern slavery in Australia. Cases of forced labour exploitation within Australia have been found in industries including agriculture, construction, domestic work, meat processing, cleaning, hospitality and food services. (An inquiry in Australia in 2016 found many overseas workers arriving on temporary working visas were vulnerable to forced labour conditions.) But in reality, the major risk for Australian businesses and consumers in terms of benefiting from modern slavery comes from imported goods. The top five products being imported to Australia that are at risk of modern slavery in their production and supply chain are:

- laptops, computers and mobile phones
- clothing and accessories
- fish (including prawns and other seafood)
- rice
- cocoa (including in chocolate)

A representative of activist group Made In A Free World has stated that in Thailand there are some seafood boats where human trafficking exists and people cannot escape. The organisation claims that the seafood fished on those boats was traced all the way through the supply chain to companies like Costco. In addition, some Australian seafood retailers have been linked to the same boats in Thailand and Vietnam.

Australia has in place a Modern Slavery Act 2018 that requires all large organisations (approximately 3000 companies) to report annually on the risks of modern slavery in their operations and supply chains. The reports will be publicly available. Although there will be no penalties for failing to lodge information, supporters of the legislation have pointed out that public disclosure still gives non-governmental organisations the opportunity to 'name and shame' those who do not comply. Consumer pressure is also likely to come to bear on those organisations that do not report on the risk of modern slavery in their operations or supply chain. Made In A Free World has reported that since the passing of the Modern Slavery Act, some Australian companies have reached out to try and combat slavery in their supply chains.

Questions/tasks

1. **Define 'modern slavery' and identify the key forms of modern slavery.**
2. **Outline the extent of the problem of modern slavery both in Australia and abroad.**
3. **Explain how Australians can be benefitting from modern slavery without even realising.**
4. **Explain how the globalisation of production has helped to both encourage modern slavery and keep it hidden.**
5. **Describe what the Australian government has done to attempt to tackle modern slavery and evaluate the likely effectiveness of their efforts.**
6. **What can you do? Visit Anti-Slavery Australia's website http://www.antislavery.org.au/ . It contains true stories of slavery in Australia, along with information on ethical consumerism. Students could choose an action or app they promote and report back to the class.**

Extension: HOW MANY SLAVES WORK FOR ME?

Made In A Free World is an organisation that works with businesses to stop human trafficking and modern slavery in supply chains. It created the Slavery Footprint quiz - that tells you how many slaves work for you worldwide, based on your lifestyle and what you own, wear and eat. The survey was developed at the request of the US State Department and it was intentionally designed to be controversial so people would start to see how much of their day-to-day lives involve slavery. [You can read more and take the quiz at: http://slaveryfootprint.org]

Impact of globalisation on the environment

Increasingly, consumers are concerned about the environmental impacts of their consumption choices. When we consider the impact of global trade on the environment, many of the effects relate specifically to changes in the nature of what we produce, or how we produce and consume, and these have resulted from the increased integration of the global economy.

Increasing globalisation has seen an increase in the free flow of capital and investment but the relative stability of labour. As has been noted throughout this chapter, multinational corporations have made savings by specialising component production in certain locations, and transporting components to another location for assembly. The globalisation of automobile manufacturing is a good example.

As observed earlier, consumers (including the quickly-growing Asian middle class) increasingly expect to be able to have access to a wide variety of seasonal fresh produce (e.g. vegetables, meat, dairy, fruit and flowers) all year round. There has been an exponential increase in the volume of goods transported around the globe, and services like airline flights. As the distance between the manufacturer and the consumer grows, so does the amount of transportation required, including shipping and airfreight, leading to an enormous increase in the use of carbon-based fuels (petrol, oil, gas) to power this transportation. More than 20% of the world's carbon emissions come from transportation. Global carbon emissions have increased exponentially since the beginning of the 20th century, hastening human-caused (anthropogenic) climate change, which has become an increasingly dramatic and important issue for all of humanity.

Furthermore, as global production volumes and trade have grown, so has the use of natural resources such as land, mineral commodities, water and timber. Multinational companies have been widely criticised for promoting a consumer culture where excessive or unnecessary consumption accelerates depletion of natural resources, deforestation and damage to biodiversity.

Application Exercise 8x: Environmental effect of some exports

Australia is a major exporter of commodities to the world, including coal. Some critics argue that Australia should take into consideration the massive contribution to global carbon emissions created by the coal exported by Australia to other countries. When coal from Australia's Latrobe Valley is burnt in a factory in China, it still adds to the global atmosphere. The Federal Government Bureau of Resources and Energy Economics predicts that Australia's energy exports will almost double over the next 25 years, with most of this increase coming from increased coal exports, and some from exports of gas. The coal mine (worth $16 billion) being developed by Indian company Adani in Galilee Basin in Queensland has been delayed many times by concerns about its likely environmental impact. Opponents are concerned about the direct effect of exporting the coal by shipping it through the Great Barrier Reef, and also the increased contribution to climate change resulting from the carbon emissions from burning the coal. The Climate Council states that the coal should be 'left in the ground.'

Questions/tasks

1. **Identify the main issue causing concern in the case of the proposed Adani coal mine in the Galilee Basin of Queensland.**
2. **Explain how coal mining could contribute to:**
   a. **Australia's economy**
   b. **The local Queensland economy**
   c. **Environmental damage**
3. **Defenders of Australia's coal mining industry have stated that it is unfair for consumers in rich countries like Australia to oppose the export of coal that can help to provide cheap energy for those living in poverty in developing countries like India and China. Consider the different perspectives in this debate, and come to your own conclusion. Use evidence to justify your position.**

Review questions 8.12a

1. Define 'inflation'.
2. Describe how increased international trade has impacted on inflation in Australia.
3. Explain two ways in which increased trade has helped to reduce inflation in Australia.
4. Describe three benefits that have been gained by Australian consumers through increased international trade.
5. Describe how ecommerce has provided benefits to Australian consumers.
6. Explain three benefits of globalisation that you have personally experienced as a consumer.

7. Explain what is meant by 'modern slavery'
8. Explain the link between worsening global carbon emissions and globalisation.
9. Explain two ways (other than carbon emissions) that increased globalisation can have a negative impact on the environment.

Business and Worker Perspectives on trade and globalisation

The challenges of ecommerce

As noted previously, increased ecommerce has provided an enormous benefit for Australian households in terms of diversity and price of products. Local retailers stand to gain from an online presence, but they will suffer if they cannot meet the competition presented by offshore producers. In fact, for those who focus on the 'cultural', rather than economic, aspects of globalisation, a key concern has been the globalisation of western culture via tastes and consumption. In Australia, some locally-made brands have been replaced by those of large multinationals. There are benefits in terms of increased access to larger markets, but for some, the loss of local brands, and their replacements by globalised brands is seen as a negative.

The shrinking manufacturing sector

As discussed earlier, towards the end of the 20th century, countries in Asia took advantage of their countries' availability of large amounts of cheap labour and began to industrialise. As a consequence of industrialisation in Asia, and globalisation, there has been a large loss of manufacturing jobs in the developed world, including Australia. Manufacturing tends to relocate where there is a labour cost advantage. This has always been the case historically, but has been exacerbated in Australia in the recent twenty five years with the acceleration of globalisation.

In addition, Australia has a 'natural disadvantage' in manufacturing. This is because of what historians have dubbed the **'tyranny of distance'** – we are a long way from the rest of the world that buys the kinds of things we manufacture, and manufactured products are heavy and need to be shipped long distances. Also, as explained earlier, having a relatively small domestic economy means Australia has poor **economies of scale** and is unable to reduce average costs to the levels of enjoyed by other major economies. Australia's manufacturing sector was built largely upon the protection afforded by very high tariff barriers and import quotas. Once these tariffs were progressively removed from the 1970s, our manufacturing industry struggled to compete and eventually shrank to its relatively small size today.

As of June 2021 manufacturing still provided 839,000 jobs in the Australian economy, and contributes approximately 5% of GDP. However, as a proportion of GDP manufacturing has diminished greatly in favour of services, and manufactures make up the vast majority of all merchandise (tangible) imports into Australia.

The increasing exposure of the Australian economy to competition has led to a restructure of the Australian economy, with small scale lay-offs and major redundancies, and generally the manufacturing sector has not reinvented itself but left itself exposed to competition from emerging low-cost manufacturing economies. The longer-term trend in the change of employment in Australia is clear from Table 8.16 below.

Table 8.16: Industry percentage of employment, 1990/91 and February 2021, selected industries

Industry	1990/91 (%)	February 2021 (%)
Manufacturing	14	6.9
Agriculture, forestry and fishing	6	2.5
Professional, scientific & technical ser-vices	5	9.4
Health care and social assistance	8	13.9
Mining	1	1.9
Wholesale trade	5	3.0
Retail trade	11	10.2
Education and training	6	8.4
Accommodation and food service	5	6.5

Source: http://www.aph.gov.au/ - Parliamentary Library and www.abs.gov.au – Year Book Australia

Application Exercise 8y: The impact of globalisation and international trade on Australia's labour market

Examine Table 8.16 above and use the information to answer the following questions.

Questions/tasks

1. **Describe the major changes in employment by sector across the Australian economy between 1990/91 and February 2021.**
2. **Explain the type of unemployment that may be created, or worsened, by the closure of manufacturing company plants and factories within Australia.**
3. **Explain how globalisation has contributed to the change in the structure of employment in Australia since 1990/91.**
4. **Examine the change in percentage of employment provided by the mining sector in the last thirty years.**
   a. **What percentage of employment is currently provided by the mining sector?**
   b. **How does this figure compare with employment in the same sector in 1990/91?**
   c. **Given the importance of the mining sector to Australia's recent economic prosperity, outline whether you were surprised by this figure**

EXTENSION: Investigate one company that has made a decision to close or relocate an Australian manufacturing plant or factory in the last ten years. Briefly describe the reasons the company gave for its decision. If the company announced it would relocate jobs, explain to where those jobs would be relocated and why that location was chosen.

Outsourcing of services

Outsourcing of jobs in the services sector, largely by relocating jobs to different locations such as India and the Philippines, began in the early 2000s and it continues today. **Outsourcing** involves a company using an external organisation to provide services, or undertake some of the operations of the company. **Offshoring** refers to a process whereby jobs are relocated overseas, sometimes by outsourcing, but sometimes by directly relocating company operations to an overseas location, usually for the purposes of reducing labour costs or accessing local markets.

In the early 2000s, many finance companies, banks and telecommunications companies moved elements of their IT functions offshore to India. These included software development, credit card transaction processing, call centres and data processing. These industries are increasingly able to move jobs overseas because of technological advancements. The customers of Indian service providers include some of Australia's largest companies, including Telstra, ANZ, Coles Group, Qantas, NAB and Westpac.

Since there has in the past been a perception that the main jobs that were at risk from outsourcing and offshoring were relatively lower-skilled ones, such as call centres answering customer calls, or manufacturing process workers, this has led to a suggestion that one way forward for Australia in a global economy was to concentrate on high-skilled, highly educated service sector jobs that could replace those lost overseas. However, the move by the banks and the Australian government to increasingly offshore both low-skilled and high-skilled operations positions would appear to contradict such a strategy. As outlined earlier, fintech is also reshaping the nature of the financial services sector across the world and is likely to have a flow-on effect on employment both in Australia and globally.

The rapid switch to remote teaching and learning, and working from home during the COVID-19 pandemic response also highlighted for many businesses the possibilities of technology-assisted work management and increased opportunities for outsourcing. The ongoing impact on Australia's labour force is yet to become clear, but it will be worth paying attention to the extent that this new development influences global production and consumption of services.

It could be argued that, with the increased outsourcing, and particularly offshoring, and loss of jobs in manufacturing and some service industries, workers in those sectors have been losers in Australia as a result of increased international trade and globalisation. It is possible that the increased integration of Australia into the global economy may have contributed to the increase in inequality of income distribution in Australia. Further consideration of this effect is included in later in considering differing perspectives on globalisation. At the same time, the increasing popularity of Australia as a destination for international students to study has seen an enormous growth in education as an export industry, as considered previously in this chapter.

Australian government perspectives

Because the Australian economy is now much more integrated into the global economy, the Federal Government must ensure it manages the economy in a way that allows Australia to compete effectively on the global market. It is possible that international investors could react negatively to any perceptions that the government is not managing the economy well, such as allowing inflation to rise substantially, running perpetual budget deficits and allowing its public debt and foreign borrowing to accelerate too rapidly.

In an increasingly globalised economy, the government must also consider the implication for its policies on, for example, taxation or labour market regulation, for not only Australian firms, but also multinational companies that invest in, or may wish to invest in or locate to, Australia. As was clear in the earlier Application exercise on foreign ownership of Australia's agricultural assets, increasing globalisation sometimes forces the government to create new policy responses to issues that emerge. Quite a few critics of increased global integration of the economy have argued that it makes national governments less powerful than large multinational corporations, which can move around the globe chasing cheap labour and disinvest in individual economies, removing government power.

But in addition to companies physically moving their operations to low tax jurisdictions (for example, by relocating manufacturing or service provision operations centres), globalisation has also allowed corporations to set up the legal structure of their company so they pay very little tax on services provided within developed economies, which generally have higher company tax rates. This can be done by transfer pricing, which involves a firms manipulating the price they charge when selling assets from one part of the company to another, across different geographic locations. Application exercise 8aa below investigates the so-called 'Google Tax' introduced by some governments to attempt to address this problem and avoid the erosion of their **tax base** through actions like transfer pricing.

Review questions 8.12b

1. Outline the impact of increased global trade on Australia's manufacturing sector.
2. Describe the changing pattern of employment in Australia since the advent of increased globalisation and freer trade beginning in the 1990s. Use Table 8.16 to support your response.
3. Explain the difference between 'outsourcing' and 'offshoring'. Explain why these have been one response by Australian businesses to the freeing up of global trade in recent years.
4. Explain the impact of globalisation on the service industry in Australia.
5. Explain the impact that globalisation has had on how the Australian government manages the economy.
6. Explain the potential impact of globalisation on Australian government tax receipts.
7. Define the terms 'tax base' and transfer pricing.

Application Exercise 8z: Perspectives on trade and globalisation

Work in pairs with a classmate. Read one of the following scenarios and decide whether the most significant impact of the scenario (for you, for Australia or for Australians) is positive or negative, or 'depends'. You will need to justify your position. Share your responses with the class. Try to tease out the complexities of each situation and ensure you understand that globalisation and the integration of global trade affects local communities in complex and interdependent ways (For example, in a debate about the impact of online shopping, the outcome may be that local shops close but also that jobs are created in the areas of transport and logistics. Online shopping may also enable more targeted production of goods with less wastage.)

Scenario A	Scenario B	Scenario C
In your local town, one of the main sources of employment for three generations has been the fruit cannery. The company has recently decided to close the factory and outsource the canning of fruit to another country where labour and fruit are cheaper.	Your friend's garage band has really taken off on YouTube and people from places as distant as Finland and Ghana are downloading it.	Increased international travel & ease of movement across borders has meant a deadly virus has spread rapidly around the globe, leading to the shutdown of many economies, and the loss of millions of jobs.
Scenario D	**Scenario E**	**Scenario G**
The shoes that you really like are much cheaper via an online shop in America.	The Australian Government is being pressured to decrease the current annual minimum quota of 55% Australian television programming (between 6 am and midnight) to 40%.	A representative from World Wildlife Fund invites students to become involved in and advocate to help secure the future of orangutans.
Scenario H	**Scenario I**	**Scenario J**
Your mother's superannuation fund has been affected by a global recession and she is worried that she won't have enough money when she retires.	Your uncle used to work for Ford until it closed down in late 2016.	Your best friend tells you that she no longer eats prawns as she is concerned about the conditions of those who fish for prawn on trawlers, which she refers to as 'like modern slavery'

Application Exercise 8aa: The 'Google Tax'

In order to finance any public spending, the government needs to collect taxation revenue. It can be harder for governments to collect tax revenue from companies when they are based overseas and/or operate over a large number of countries.

In recent years, there have been a series of high profile cases where large corporations have been accused of intentionally manipulating their tax affairs to minimise paying tax in rich countries where they earn large revenues. In January 2016, British MPs launched an inquiry into the UK tax system after it was revealed that Google had made a deal to pay back taxes of £130m on estimated profits of £7.2 in the UK since 2005. This amounted to an average effective tax rate of less than 3% p.a. over a ten year period (compared to average UK company profits tax of 20%). Google earns 10% of its global revenue in the UK. The UK has since introduced a diverted profits tax.

It is important to note that tax minimisation is not illegal. Rather, the main accusation facing these companies is that they are not contributing their 'fair share' of tax to countries in which they earn large proportions of their revenues.

Base Erosion and Profit Shifting (BEPS for short) is now a concept very familiar to all of those government agencies responsible for collecting company tax. The OECD defines BEPS as tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations. One of the major ways companies can profit shift is by using 'marketing hub'. In simple terms, these MNCs are accused of dodging taxes by pretending sales in high-tax countries are actually happening in overseas, lower-tax countries.

In response to community outrage, some countries have changed their tax laws. The Australian government introduced the Multinational Anti-Avoidance Law (MAAL) in 2015, followed by the Diverted Profits Tax (DPT) law, which came into place in July 2017. The MAAL applies to significant global entities with an annual income greater than $1 billion. The DPT imposes tax penalties on those companies found to be diverting profits. These changes also link into an effort by the OECD to promote such measures across all of its member countries, to increase the effectiveness of the measures overall. Having similar requirements in place across all OECD member countries means that 36 of the world's largest economies – excluding China – will enforce MNC tax compliance. One sign that these types of government actions are having an effect is the announcement by Amazon that it will avoid the diverted profits tax in the UK by paying ordinary tax on its retail sales in Britain, rather than booking those sales through Luxembourg, which it had done previously.

Both of the Australian laws are designed to force MNCs to pay more tax in Australia, by eliminating the ability of those companies to avoid having a taxable presence in Australia. The ATO notes the MAAL is designed to 'counter the erosion of the Australian tax base by multinational entities using artificial and contrived arrangements to avoid the attribution of profits to a permanent establishment in Australia.' Tax law is famously complex, but in simple terms, this means that MNCs cannot earn revenue in Australia (e.g. by selling services to Australian customers) and then move that money offshore before they have paid tax on it. Prior to the law, the MNCs could claim those services were actually provided by an overseas entity, or significantly and artificially inflate the cost of service provision in Australia so very little profit is made here. Since no profit = no tax payable, they reduced their tax bill substantially.

Both BHP Billiton and Rio Tinto are companies that use marketing hubs in Singapore. The use of these hubs allows companies to use transfer pricing. They sell their product between two arms of the company. The arm of the company in the high-tax country (e.g. Australia) sells the product extremely cheaply to the arm of the company in the lower-tax country (e.g. Singapore). This means the Australian arm of the company makes little, perhaps no, profit because of its low sales price. But it means the company's profits are recorded as being made (in accounting terms 'booked') in the lower-tax country. This reduces the company's overall tax liability without the company as a whole losing any money.

Under a deal with the Singaporean government, BHP's marketing hub does not pay any tax in the country. Some tax is still payable in Australia on its profits made in Singapore, but critics claim BHP is not paying a fair share of tax. In September 2016, the ATO issued BHP Billiton with a $1 billion tax bill, after investigating the company's Singapore tax affairs. Former Australian Treasurer, Wayne Swan, accused BHP of using transfer pricing to 'smuggle profits out of Australia'. On the other hand, Chief Financial Officer of BHP, Peter Beaven, defended the company's use of the Singapore facility. He said it actually benefits Australia and BHP's shareholders, by creating value for both, including tax revenue. He also claimed the transfer pricing dispute with the ATO was about valuation not tax avoidance. Beaven noted that for every $1 of pre-tax profit BHP made in Australia in 2015-16, 57 cents was payable in taxes and royalties to Australian governments.

One UK MP involved in reviewing the country's taxation policy made the observation that 'a corporation's duty to shareholders will be to minimise its tax liability.' He noted it is up to those making tax policy to find better solutions to the problems caused by the complexity of the globalisation of production and economic activity.

Task: Imagine you're explaining the 'Google Tax' furore to a friend who doesn't study Economics.

1. **In your own words, explain 'base erosion and profit shifting,' and briefly explain why so many rich country governments are worried about BEPS.**
2. **Explain how transfer pricing works and how the use of marketing hubs has contributed to the ability of large corporations to use transfer pricing.**
3. **Explain the possible longer-term implications for developed country economies of BEPS continuing unchecked.**
4. **Explain the likely different perspectives on the so-called 'Google tax' of the CEO of Google and an average Australian income tax payer.**
5. **Based on the information in the case study and discussion with your peers, write a 200 reflection on whether you believe MNCs are paying their 'fair share' of taxes.**

EXTENSION: The ABC website hosts an interactive explanation of how profit shifting works, using the example of a pair of Nike trainers. https://www.abc.net.au/news/2017-11-07/paradise-papers-the-journey-your-money-takes-after-buying-nike/9075626

8.13 Global responses to issues around trade

There is a significant role for international institutions and global movements in responding to issues that arise around global trade. The establishment of trade agreements to promote freer trade was considered earlier in this chapter.

Global institutions and anti-free trade movements

The increasing globalisation of the world and the rising importance of international trade has been accompanied by the growth of numerous international institutions. Some of these have been focused on addressing issues of global inequality or managing the process of integration more effectively. These include institutions that have a distinctly political focus, such as the **United Nations** and its various agencies. Other global institutions are designed to encourage the integration of the global economy, and in this final section we will focus on those global institutions that have supported economic globalisation and integrated world trade.

As has been clear throughout this chapter, the globalisation of trade and integration of the world economy continues to be contested. Now, in the second decade of the 21st century, the debates about globalisation are not nearly as ferocious, nor as violent as they were in the 1990s and early 2000s, when the first real effects of the latest 'wave' of freer trade and global integration were truly beginning to be felt around the world. At that time there were many large protests against 'globalisation', by people from all sorts of different groups across the community.

Much of the anger of the anti-globalisation movement was focused on three main institutions – the **World Trade Organisation (WTO)**, the World Bank, and the International Monetary Fund (IMF). Other major global organisations, such as summits of the G8 and G20 country leaders were also targeted. However, the size and violence of the protests against the WTO, World Bank and IMF have been without parallel.

One of the largest of these, and the first to gain worldwide attention as an anti-globalisation protest, was the "Battle for Seattle" in November 1999, when protesters picketed the WTO meeting in Seattle, Washington. The protest became violent after clashes between protesters and police, and thousands of protesters were injured.

In order to understand why these institutions became the target of such protests it is worth considering their history, why they were established, and some of their actions in promoting economic globalisation. Those who have endorsed the freeing up of global trade believe that it has raised living standards and reduced poverty across the globe, and especially in developing countries. They have often been quite supportive of the work of these large global institutions. A brief outline of the role of each organisation, along with key criticisms of their actions, is provided below.

The World Trade Organization (WTO)

One of the most important institutions in the global economy is the WTO which was formed in 1995. Just like the other two global institutions to be considered here, the WTO had its origins in the Bretton Woods agreement of the 1940s. It replaced the General Agreement on Tariffs and Trade (GATT) that had been designed to promote multilateral trade as the global economy opened up after World War ll. There were a series of trade negotiation rounds which took place in different cities around the world where the details of the GATT were agreed to. These included removing barriers to trade such as tariffs and import quotas.

The WTO aims to:

- Contribute to economic growth and development by removing obstacles to international trade and creating a level playing field for all
- Create and administer agreed rules to govern international trade among member nations

One of the roles of the WTO is to settle trade disputes between member nations, and it regularly monitors the trading policies of its member countries. For example, each country's trade policy is regularly reviewed and a report written by the WTO on the openness, or not, of its approach to trade. Currently, the WTO has 164 member countries and the organisation includes agreements relating to the trade in goods and services, international investment and intellectual

property rights. Currently the WTO is operating the Doha Round of trade talks, which has a focus on addressing the needs of developing countries in international trade.

The WTO harbours a strong commitment to the opening of all national markets to international trade which it believes will encourage sustainable development, raise living standards, reduce poverty and foster peace and stability. While the WTO does accept there needs to be "justifiable exceptions" and "adequate flexibilities" in opening up trade, critics of the WTO often claim that its approach does not take into account that sometimes freer trade leads to a widening of inequality in global income distribution.

Critics also claim that the WTO supports the needs of developed countries over developing ones. For example, they cite high levels of subsidies on the production of agricultural products in developed countries that make it hard for many poorer countries to access lucrative developed-country markets with their produce. Critics of the WTO note that, despite the WTO's existence for almost three decades, and the GATT for many before that, those protectionist measures remain in place.

The World Bank

The World Bank (formally a collection of five separate agencies) was initially established as the **International Bank for Reconstruction and Development** following World War ll. Initially designed to provide support for Europe to rebuild, it is now focused on reducing global poverty and improving living standards around the world. It provides loans and grants to the governments of developing countries, often to finance infrastructure projects. The World Bank is often the only source of funds for the very poorest of countries, which receive grants from the bank. These loans and grants have been used to finance infrastructure projects such as investment in dams, roads, bridges and hospitals.

Critics of the World Bank have been vocal in their opposition to the reforms often imposed by the Bank on countries prior to granting loans. These can include forcing the countries to sell off public assets, remove subsidies on basic food stuffs, remove tariff barriers and reduce the size of government. Known as **structural adjustment**, this approach became synonymous with a series of loans offered by the World Bank to bail out struggling countries during the crisis in the 1970s when global oil prices rose very sharply. In some countries it led to high unemployment and slowing economic growth and rising inflation.

Critics, including a former Chief Economist of the Bank, Nobel Prize winning economist Joseph Stiglitz, have criticised the bank for imposing these economic reforms too rapidly, sometimes causing major hardship and thwarting economic development in the process. Critics have also pointed out that, even though the Bank is designed to serve all 189 countries that make up its membership, the President of the Bank has almost always been an American, and they have been critical of what they perceive as excessive developed-country influence over how the Bank is run.

The International Monetary Fund (IMF)

The International Monetary Fund was established, alongside the GATT and the World Bank, following World War ll. After the War, the international financial system, and the system of international payments and exchange rates was in a mess, and the IMF was established to provide stability. Particularly, it acts as a lender to help countries meet their external financial obligations during times of crisis. Members of the IMF contribute funds to a pool based on their relative size and affluence, and then they can borrow from that pool on a temporary basis if they find they have a problem servicing their current account deficit or they need funds that cannot be accessed elsewhere.

Like the World Bank, the IMF also provides technical assistance and policy advice for governments to help them improve their macroeconomic performance. Also like the World Bank, assistance from the IMF usually comes with conditions, and these conditions, just like those imposed by the Bank, have been a source of major criticism of the IMF. Similar to the conditions imposed by the World Bank, the IMF often requires country government to privatise major assets, as well cut their expenditures in order to run budget surpluses, as a condition of receiving assistance. This was one of the ways the IMF attempted to assist debt riddled economies during the global financial crisis of 2008.

Application Exercise 8ab: The anti-globalisation turn?

The ongoing pushback against globalisation in the West is a defining phenomenon of this decade. The election of Donald Trump as President in the United States, and the vote by Britain to leave the EU (Brexit) have both been seen as indicative of a broader world-wide anti-globalisation 'push'. Trump made rejection of the global integration of the world economy a centrepiece of his campaign. In his speech accepting his nomination, he said 'Americanism, not globalism, will be our credo'. Trump's supporters claimed that only a handful of people had gotten rich off globalisation, and a lot of people had been left behind. Briefly after being elected, Trump began a 'trade war' with China that included imposing substantial tariffs on imports, and China retaliated with tariffs on US imports. He regularly implemented policies that indicated he was not keen on any form of global agenda or action.

Shortly after the Brexit result was announced in June 2016, an article in The Guardian stated 'In the age of globalisation, the idea was that a more integrated Europe would collectively serve as the bulwark that nation states could no longer provide.' The article then went on to note that the EU had 'entirely failed to provide that kind of protection', noting that 'An increasing number of voters believe there is not much on offer from the current system. They think globalisation has benefited a small privileged elite, but not them.' According to one person quoted, it is time to rethink the assumption that a 'flexible globalised economy can generate prosperity that is widely shared'.

Some economists observed that the rise in inequality experienced in many countries, and particularly the negative impact of globalisation on jobs for less-skilled workers in developed countries, fostered much of this anti-globalisation sentiment. It was also argued that rapid technological change has also played a significant role in job losses and rising inequality. Those areas that voted most convincingly for anti-globalisation candidates in both the US elections and the Brexit referendum were those where high rates of long-term structural unemployment had created major social problems.

Nobel Prize winning economist, Joseph Stiglitz, made the observation that those who are concerned by the surging support for populist, anti-globalisation politicians remain convinced that 'everyone really is benefiting from globalisation; they just don't know it.' He disputes such an assumption, citing the following data for the US:

- The bottom 90% has endured income stagnation for a third of a century
- Median income for full-time male workers is actually lower in real terms than it was 43 years ago
- At the bottom of the income distribution, real wages are comparable to their level 60 years ago
- Life expectancy among segments of white Americans is declining.

With a more global perspective, French economist Thomas Piketty, in his book Capital in the 21st Century, identifies an increasing reallocation of the return to resources used in production away from labour (i.e. wages and salaries) and towards capital (i.e. investors) in recent years. According to Piketty, this has led to a concentration of wealth, and social and economic instability.

The World Bank's Branko Milanovic created a now-famous 'elephant chart' – which plots the growth in real income for each percentile of the world's population in the twenty years to 2008. It demonstrates that income growth for the world's growing middle classes in India and China has been substantial. However, at the same time, the world's poorest have seen minimal income growth, and the working and middle classes in the wealthy west have experienced no, and sometimes even negative, real income growth. In contrast, those at the very top of the income scale have seen their incomes grow at an incredibly rapid rate.

Some have observed that it is the economies that have provided support to those negatively affected by globalisation (and rapid technological change) that have managed to hold back the rise of populism and anti-globalisation in their politics.

Questions/Tasks

1. **Explain why some commentators consider the election of Donald Trump and the vote for Brexit as signs of a turning of the tide against globalisation.**
2. **Identify those who the case study suggests are most likely to actively campaign against globalisation.**
3. **Use data from the case study to support the claim that some workers in the West have been 'left behind' by globalisation.**
4. **Explain two policies or actions a government could implement to support those negatively affected by globalisation.**
5. **View Brank Milanovic's 'elephant chart' along with an explanation here: https://www.bbc.co.uk/news/business-37542494. Describe what the chart shows, using data from the chart to support your answer.**
6. **Some commentators argue that it is only right that, in a world of limited resources, those who are already wealthy sacrifice their own economic advancement to ensure that the global poor are lifted out of poverty. Explain your response to this suggestion.**

Review questions 8.13

1. Explain the role of the World Trade Organisation in promoting and regulating global trade.
2. Describe one criticism of the WTO.
3. Explain the role of the World Bank in trying to alleviate poverty around the world.
4. Describe one criticism of the World Bank as a global institution.
5. Explain the role of the International Monetary Fund in improving stability in the global financial system.
6. Describe one criticism of the IMF.
7. Discuss the possible future of trade liberalisation in light of ongoing trade wars and the COVID-19 pandemic.

8.14 Multiple choice review questions

1. In relation to Australia's exchange rate
a) It is usually measured by the value of AUD compared to the Mexican peso
b) Its value is likely to increase when commodity prices are rising
c) Its value is likely to fall when interest rates overseas start to decrease
d) Its value is determined by the demand for Australian wheat on the Australian market

2. Which of the following does not represent a credit entry in Australia's balance of payments?
a) The payment of interest from a Japanese company to Australian shareholders
b) Foreign investors receiving interest from Australian banks
c) Australian hotel chains receiving money from foreign guests
d) Australian educational institutions receiving fees from overseas students

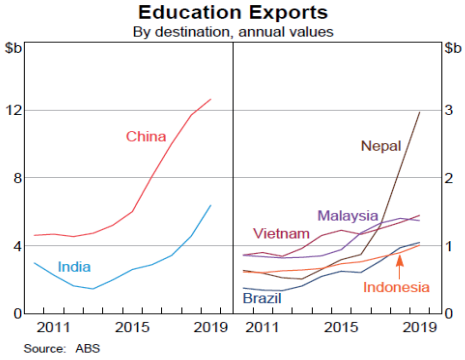
3. Which of the following transactions is most likely to create future financial obligations for Australians?
a) The receipt of interest from overseas
b) The receipt of dividends from overseas
c) The receipt of loans from overseas
d) The receipt of rent from overseas

4. Which of the following statements is most accurate in relation to economies of scale?
a) Costs of production will fall as output increases
b) Costs of production will rise as output increases
c) Average costs of production will rise as output increases
d) Average costs of production will fall as output increases

5. Which of the following statements about Australia's balance of payments is correct?
a) The net primary income account is the sub-account of the current account that is consistently in deficit
b) The sale of Australian shares to overseas investors is recorded in the Capital Account
c) The Balance on Goods and Services (BOGS) is made up of both the Balance on Goods and the Balance on Services
d) The current account balance will always exceed the CAFA balance

6. Which of the following statements about Australia's balance of payments is correct?
a) The BOMT is always a surplus for Australia
b) Any current account deficit will need to be funded by a capital and financial account surplus
c) Australia will always have a current account deficit and a CAFA surplus
d) The Capital Account is a major part of the balance of payments

7. According to the adjacent chart which of the following statements is incorrect?
a) China is Australia's most valuable market for education exports.
b) The value of Australia's education exports to Nepal has recently outstripped our education exports to India.
c) Australia's education exports to Malaysia began to decline in 2019
d) The value of Australia's education exports to China is roughly 400% larger than those to Nepal



8. A higher Australian exchange rate is most likely to result from which of the following?
a) A lower average commodity price
b) An increase in Australia's international competitiveness
c) Growth in the demand for imports
d) Higher interest rates in the USA relative to Australian interest rates

9. Australia has a competitive advantage in the production of mineral resources because
a) Australia's cost of labour is low relative to the costs of labour overseas
b) Australia has an abundance of natural resources compared to most other nations
c) Australia's cost of capital is low relative to the costs of capital overseas
d) Australia's productivity levels are double those of the next most competitive country

10. Which of the following is least likely to be a reason for pursuing trade liberalisation?

a) To prevent an appreciation of the AUD
b) To increase efficiency
c) To reduce production costs
d) To reduce inflationary pressure

11. Which of the following factors are commonly considered to help explain business expansion across national borders?

a) The development of information technology that allows instant communication around the globe
b) The ready availability of large, cheap, semi-skilled labour force in many poorer countries
c) The development of containerisation and reduced transport costs
d) All of the above

12. Which of the following is the most accurate definition of offshoring?

a) Where a company uses an external organisation to provide services, or undertake some of the operations of the company
b) Where a company relocates jobs overseas, usually for the purposes of reducing labour costs or accessing local markets
c) Where a company sets up a new branch of its firm in another country
d) Where a company reduces it production costs per unit by producing larger volumes of their product

13. Australia has been affected by globalisation in all of the following ways except

a) Reduced prices as a result of increased competition from cheap imports
b) An increased share of Australian jobs being created in the manufacturing sector, as Australian companies have taken advantage of export opportunities and economies of scale
c) Decreased costs of imported inputs for industry due to the reduction of tariffs on most imports into Australia
d) The loss of some jobs in service industries as technology allowed call centre positions to be offshored to countries with lower wage rates

14. Examine the information in the table below.

Major Australian exports to China 2021		
		AUD billion
1.	Iron ores and con-centrates	126.8
2.	Natural gas	18.5
3.	Gold	7.0
4.	Confidential items of trade	5.1
5.	Education-related travel	4.4

According to the data

a) Services exports do not feature in the top 5 Australian exports to China.
b) Chinese students studying in Australian contributed more than $4 billion dollars to the Australian economy in 2021.
c) The value of Iron ores and concentrates sold to China was less than the combined value of the other top four exports to China in 2021.
d) Commodities do not make up a large percentage of Australia's exports to China.

15. Which of the following has not been an effect of increased free trade on Australian consumers?

a) A decreasing proportion of household expenditure needs to be dedicated to buying imported products, as their prices have fallen over time
b) Increased average price of consumer imports relative to the prices of other goods and services
c) Inflation has been kept under control, helping to preserve the purchasing power of consumers
d) Increased access to a larger variety of goods and services produced overseas

16. Which of the following can be an effect of increased global trade on the environment?

a) Increased pollution from the increased transport of goods around the globe
b) Accelerated depletion of natural resources because of rapidly growing consumption across many countries
c) Increased global awareness and activism on environmental issues, through the use of world-wide social media
d) All of the above

17. From the list below, choose the international organisation responsible for maintaining the stability of the global financial system.

a) The World Bank
b) The International Monetary Fund
c) The OECD
d) The World Trade Organisation

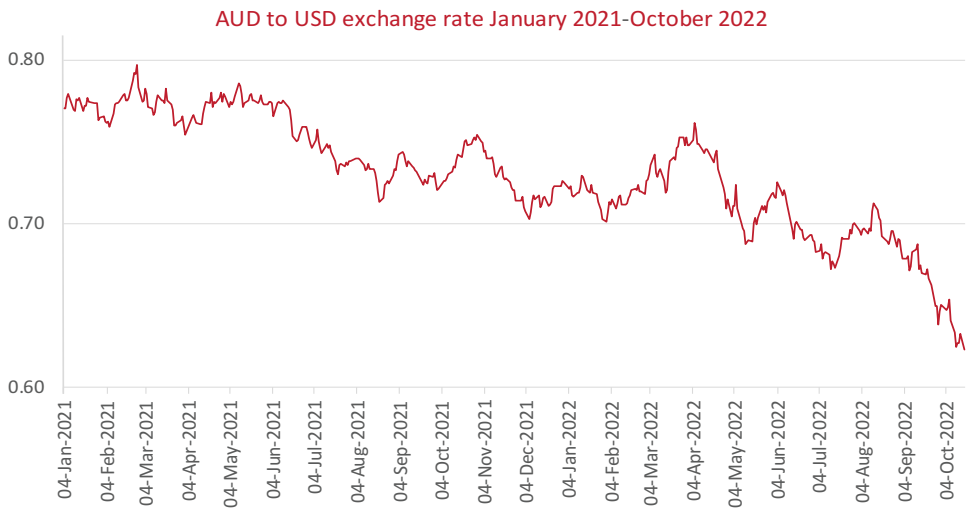
18. Which of the following is unlikely to be considered a benefit of increased human capital flows with freer trade?

a) They can help to alleviate capacity constraints or skills shortages in some industries
b) They can reduce the costs to business of training Australian workers
c) They can improve the quality of human capital as skills transfer takes place between foreign and local workers
d) The improved quality of human capital flows through to higher prices for goods and services paid by consumers

19. Which of the following is not an example of trade protection?

a) The imposition of a tariff on imported goods
b) A rule stating that only a limited quantity of a certain product is allowed to be imported
c) The removal of local content rules for TV programs
d) A subsidy to a company that exports wheat

20. According to the chart below, over the course of 2021-22



a) The Australian dollar appreciated and this improved the international competitiveness of Australia's exports
b) The Australian dollar depreciated and this reduced the international competitiveness of Australia's exports
c) The Australian dollar depreciated and this improved the international competitiveness of Australia's exports
d) The Australian dollar appreciated and this reduced the international competitiveness of Australia's exports

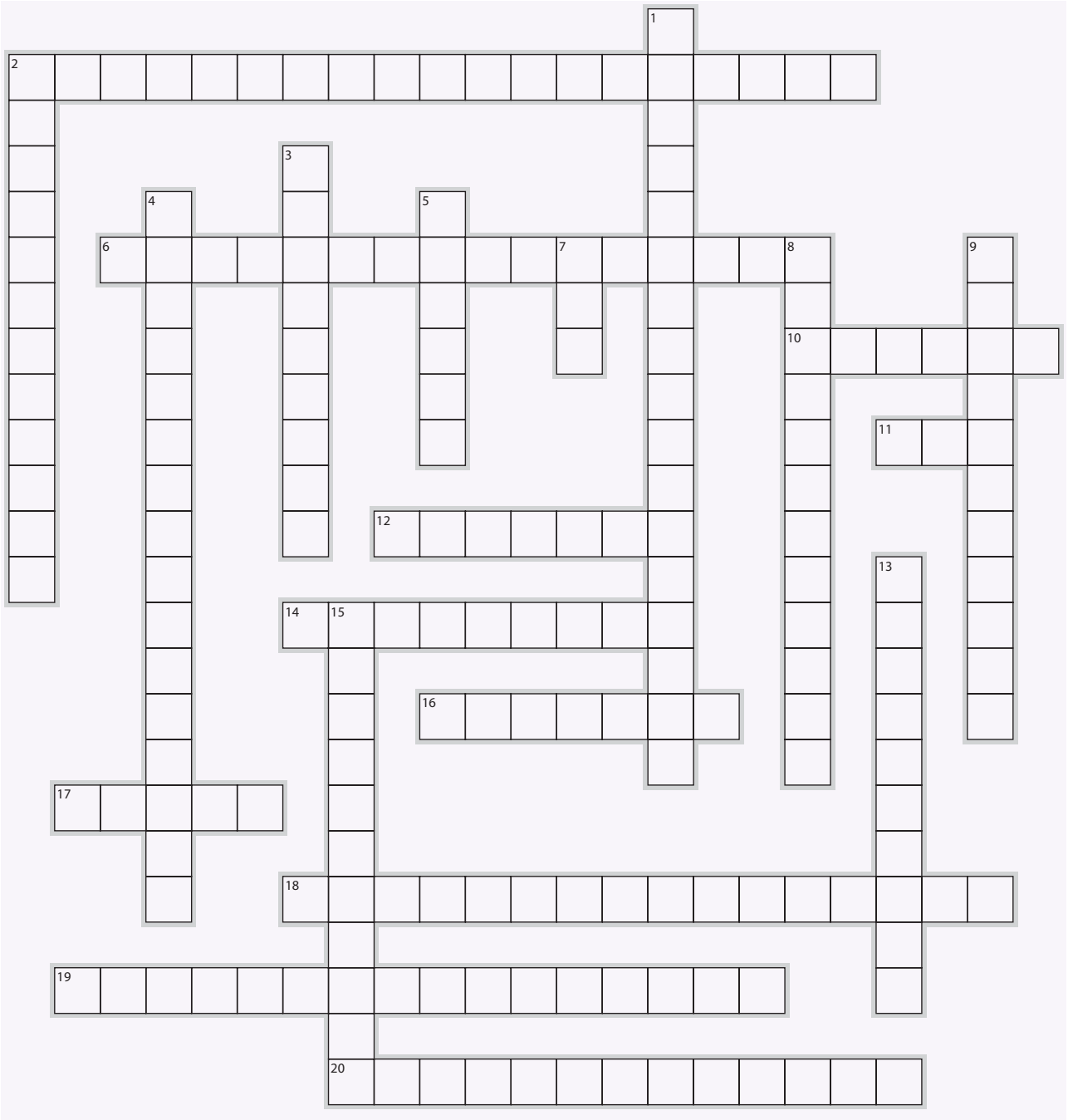
8.15 Chapter crossword puzzle

Across

2. The process of removing barriers to trade between nations (two words)
6. Sub-account of the current account recording the value of all credits of income from Australians holding overseas assets minus the value of all debits of income paid to foreigners who hold Australian assets (3 words)
10. The acronym for the name of a trade agreement between Australia and its largest two-way trading partner
11. The acronym for the name of the global organisation responsible for overseeing and promoting world trade
12. A form of trade protection that involves paying a producer to produce more
14. The buying and selling of goods and services via the internet
16. Goods and services made in Australia but sold to residents of other countries
17. Australia's major trading partner
18. Tasks in the production process are broken down and divided up, and workers are assigned particular stages or tasks in that process. Internationally, this has been a cause of the relocation of many labour-intensive jobs to low- wage countries (3 words)
19. The reduction in costs per unit of output gained from increasing the volume of production (3 words)
20. The interruptions to these during the COVID-19 pandemic and global instability has been one source of concern over the increased reliance on global trade for certain products. (2 words)

Down

1. The record of Australia's international financial transactions, consisting of a current account and a capital and financial account (3 words)
2. The difference between the value of exports and the value of imports in any given period (2 words)
3. The name of the global organisation responsible for providing loans to the governments of the world's poorest countries to aid development (2 words)
4. The value of this will be below zero when Australians own more assets abroad than foreigners own of Australian assets (3 words)
5. A tax on imports, designed to protect local industry from cheaper products coming in from overseas
7. The acronym for the name of the global organisation responsible for ensuring the stability of the global financial system
8. The value of the Australian currency on global markets (2 words)
9. The process of a company using an external organisation to provide services or undertake some operations of the company
13. One of the key drivers of increased globalisation, that includes increased ecommerce and access to the Internet
15. The collective name for the group of raw material products that make up a significant proportion of Australia's exports



8.16 Chapter summary

1. Australia engages in international transactions with the rest of the world because trade in goods and services (including financial capital) ultimately improves our economic prosperity and living standards.
2. International trade involves the exchange of goods, services and capital across international borders, because there is a demand for such goods and services in countries other than where they are produced.
3. Exports are Australian-made goods and services that are purchased by those not based in Australia. These involve the flow of money into Australia from overseas. Imports are foreign-produced goods and services that are purchased by Australian economic agents, and they involve money flowing from Australia to overseas.
4. Exports made up between 10 and 15 per cent of Australia's GDP throughout the 1960s and 1970s. Since the 1980s it has made up an increasing share of GDP, peaking in June 2022 with close to 30 per cent of GDP being contributed by exports.
5. Since the advent of trade liberalisation, Australia has specialised in the production of commodities and services while importing a large proportion of goods that we consume – particularly manufactured goods.
6. Until the 1950s, Australia's trade was dominated by exporting to Europe, and in particular to the United Kingdom.
7. Since the advent of economic globalisation, Australia's trading relationships have shifted significantly, with eight out of the top ten of Australia's two-way trading partners are now in the Asia-Pacific region.
8. Money entering Australia's economy in return for exports are recorded as a credit, and money that leaves Australia to pay for imports is recorded as a debit.
9. The 'trade balance' indicate the value of exports (credits) minus the value of imports (debits) in a given period. The trade balance is also sometimes referred to as the 'Balance of trade' or the 'Balance on goods and services' – indicating it measures the value of exports and imports of both goods and services.
10. When Australia exports goods and services of a greater value than what it imports, then it runs a 'trade surplus' and when the value of imports exceeds the value of exports in a given period, Australia runs a trade deficit.
11. All financial transactions involving the movement of money across international borders are recorded in the Balance of Payments, and includes not just the money in and out for trade in goods and services but also all other financial flows.
12. The Balance of Payments consists of two sub-accounts - the Current Account (CA) and the Capital and Financial Account (CAFA) and at the end of any particular period, any CA deficit (CAD) must be exactly offset by a CAFA surplus, such that the BOP must equal zero. Similarly, when Australia operates a current account surplus this needs to be offset by a CAFA deficit.
13. Current account transactions record all credits and debits of a 'current' nature, which means that these transactions do not result in any future obligations, unlike those recorded in the CAFA.
14. The four sub-accounts making up the current account are the Balance on Merchandise Trade (BOMT), Net services, Net Primary Income and Net Secondary Income.
15. Historically, Australia has recorded a Current Account Deficit (CAD), but since June 2019 the current account balance has been in surplus. This is a result of a rising surplus on the trade balance, which has offset the deficit in the Net Primary Income section of the CA.
16. The CAFA records international transactions that result in a future obligation, such as when Australia borrows money from overseas or sells Australian assets to foreign economic agents.
17. The Capital Account is a relatively insignificant account and covers capital transfers (such as debt forgiveness) and the acquisition or disposal of non-produced, non-financial assets (such as sales of copyrights, licenses or patents) between Australian residents and non-residents (foreigner).
18. The Financial Account records the finance flowing into Australia in the form of loans (debt) or the sale of Australian assets (equity) or vice versa. As with all transactions on the balance of payments (BOP), any money flowing into Australia is recorded as a credit, increasing the balance of the account, and any money flowing out of (leaving) Australia is recorded as a debit.
19. Australia's Net International Investment Position represents the value of Australia's net international financial obligations to the rest of the world. It is made up of Australia's stock of net foreign liabilities (NFLs) which is the value of Net Foreign Debt (NFD) plus Net foreign Equity (NFE).
20. NFD is made up of the total value of debt owed to foreigners minus the total value of debt owed by foreigners to Australians.
21. NFE is the total value of Australian assets owned by foreigners less the total value of foreign assets owned by Australians.
22. The inexorable rise of China since the 1990s has been a key element of economic globalisation and also a key contributor to Australia's ongoing economic prosperity. China's share of global GDP was 2.26% in 1980, and by 2021 it was over 18% and is anticipated to grow to over 20% by 2027.
23. China is often referred to as the world's factory because of its plentiful supply of relatively cheap labour and investment in infrastructure enabling it to become the world's largest source of manufactured items.
24. China is Australia's most significant two-way trading partner, account for almost 30% of all of Australia's trade.
25. China is a massive consumer of commodities, and these account for a significant proportion of Australia's exports.
26. As China becomes a wealthier country, its demand for services imports, such as education, tourism and healthcare, are also opening up new opportunities for Australian exporters. Growth in services trade has been enhanced by the signing of the China-Australia Free Trade Agreement (ChAFTA).
27. By the end of the 2021 calendar year Chinese companies have invested a total of USD$110.1 billion in Australia. Australia is the second largest recipient of Chinese overseas investment.
28. Concerns over China's future growth trajectory and changing demographic and economic structure have made Australia vulnerable as China is Australia's largest export market.
29. The emergence of trade tensions globally, and between Australia and China has impacted Australia's economic relationship with China.
30. International trade in goods and services has allowed Australians to access a more diverse range of products at lower prices and reduced production costs in Australia.
31. International trade allows businesses in the world to sell to a larger market, which means that they can benefit from

economies of scale.

32. Foreign financial flows allow for lower borrowing costs and increased investment opportunities.
33. Over time international aid transfers should raise living standards in both the donor and the recipient countries.
34. Human capital flows across international borders can benefit both Australian workers and businesses through access to new income earning opportunities and skilled labour to fill skills shortages in Australian industries.
35. Trade protection involves efforts by governments to protect local import-competing producers from the threat of imports. It involves the imposition of barriers to trade such as tariffs, quotas and subsidies.
36. Historically, most countries around the world, including Australia, used trade protection to 'protect' local producers.
37. Justification provided for trade protection include national security, protection on burgeoning industries, protecting culture and traditions and risks of supply chain interruptions.
38. One reason for freeing up trade is to allow countries to specialise in those industries in which they have a competitive advantage.
39. Trade liberalisation can be defined as any government policy initiative that is designed to promote free trade or reduce restrictions or barriers to free trade with other countries.
40. Australia has pursued trade liberalisation because it helps to increase international competitiveness and the benefits this brings, including stronger growth, lower inflation, greater employment in the long run and enhanced living standards.
41. In recent years, Australia has focused on negotiating free trade agreements (FTAs) - agreements between two or more countries which remove barriers to trade (such as tariffs or quotas) between all countries that are party to the agreement
42. The failure of multilateral free trade negotiations through the World Trade Organisation means Australia has focused its trade liberalisation reforms on negotiating a series of bilateral free trade agreements – agreements to free up trade between Australia and one other country.
43. Acceleration in ICT, especially the Internet and falling costs, have been instrumental in accelerating global trade volumes.
44. Technology has impacted particularly on the service industry, allowing global trade in services across vast geographic distances, to rival the international trade in goods.
45. Developments in transport technology, including the advent of super tankers and containerisation, have facilitated exponential increases in the trade in goods.
46. Firms have taken advantage of differentials in wage rates across different countries to divide up the location of labour tasks, in order to minimise production costs.
47. Labour-intensive aspects of the production process have been relocated to countries with lower wage rates to take advantage of lower input costs.
48. Australia's exchange rate is usually measured by the value of AUD compared to the USD or the Trade Weighted Index (TWI).
49. Since the 'floating' of the currency in 1983, the value of the exchange rate is primarily determined by the forces of demand and supply.
50. Australian dollars are demanded in the foreign exchange market (which can be anywhere in the world) whenever a person, business, government or other organisation wants to convert a foreign currency into Australian dollars.
51. Australian dollars are supplied to the foreign exchange market whenever the Australian dollar is needed to purchase a foreign currency.
52. Putting this together, the exchange rate that is determined is simply the equilibrium where the demand for AUD is equal to the supply of AUD in the foreign exchange market.
53. A depreciation of Australia's exchange rate means that the Australian dollar now buys less of a given foreign currency.
54. An appreciation of Australia's exchange rate means that each AUD can purchase more units of foreign currency.
55. When interest rates in Australia increase relative to the rates applying overseas, it increases the interest rate differential and creates incentives for overseas investors to take advantage of the higher returns and invest in Australia. It results in a higher demand for the Australian dollar, as foreign funds need to be converted into Australian dollars and contributes to a higher value of the Australian exchange rate.
56. An increase in the rate of economic growth experienced by Australia's trading partners is likely to contribute to an increase in the value of the AUD.
57. A lower exchange rate will help to increase demand for Australia's exports and reduce demand for imports, and vice versa.
58. Australian households have overall benefited from increased international trade, including through lower prices and reduced inflation and increase consumer choice and access to products.
59. Some consumers are concerned by increased international trade because of potential impacts on the environment, and issues around modern slavery in the supply chain.
60. The exposure of Australian industry to more international competition has seen a shrinking of the manufacturing sector.
61. Service industries are increasingly being exposed to international trade – through increased access to overseas markets, but also through the outsourcing and offshoring of jobs in the services sector.
62. Increased integration of the global economy has led to pressure on governments to shore up their tax base, and tackle tax base erosion and profit shifting by multinational corporations.
63. The increasing globalisation of the world and the rising importance of international trade has been accompanied by the growth of numerous international institutions.
64. There have been a number of movements against increased international trade and globalisation, including the protests in the 1990s and 2000s.
65. Three major global institutions involved in international trade and globalisation are the World Trade Organisation (WTO), The International Monetary Fund (IMF) and the World Bank.
66. In recent years there has been a significant retreat from trade liberalisation among many of Australia's major trading partners.

Chapter 9
Economics and environmental sustainability

9.1: Introduction

The VCE Study Design notes that students may choose to focus on one particular issue for this area. This chapter discusses environment issues generally and explores the issue of climate change as this is a significant issue not just for Australia but all countries around the world. **Climate change** refers to changing weather patterns and more specifically an increase in severe weather events. A related concept is that of **global warming,** or the rise in the general temperature levels throughout the world. In recent years, much of the eastern part of Australia has been impacted by bushfires, floods and droughts, all of which have been linked to climate change. This negatively influences the **living standards** of Australians as these severe weather events impair both natural and capital resources, including damage to national parks and ecosystems, as well as destruction of buildings and infrastructure. As a consequence, these adverse weather events divert government funding towards reconstruction efforts and away from other initiatives that could otherwise improve living standards, such as more funding for education and health. Climate change not only impacts on the quality of lives of Australians directly exposed to these weather events, but it also influences Australians more generally as there is heightened uncertainty and anxiety about the future.

One of the main causes of climate change and global warming is the use of fossil fuels, such as coal and natural gas, both of which Australia has in abundant supply. In Australia, fossil fuels are used to generate power for domestic users, as well as generate income from exports. The fossil fuel industry generates significant economic benefits for Australia, including the income paid to the relatively large number of Australians employed in the industry, as well as the taxes and license fees paid to governments. It is the existence of these economic benefits that has been the key reasons why Australia lags behind many other developed countries in addressing climate change. This is because efforts to address climate change necessarily involve some pricing of carbon emissions (e.g. a carbon tax) which inflates costs for the industry, raises prices and reduces output. The resulting reduction in national output (or real GDP) then contributes to lower incomes and rising unemployment, meaning that policies to address climate change will negatively impact on the Australian economy in the short run.

Of course, the long run benefits of addressing climate change are being sacrificed by governments who choose to delay action today. [This relates to economic trade-offs and opportunity costs considered in Chapter 1.] Typically, this inaction on climate policy over the years leading into 2022 has been motivated largely by political considerations, with governments fearful of the voter backlash associated with rising energy prices and potential loss of jobs. However, during the recent Federal Election, voters identified that climate change was one of the key issues of concern and many commentators argued that the new government had a mandate to act on climate change. Following the election result in late May 2022, the incoming Prime Minister, Anthony Albanese, promised to turn Australia into a 'renewable energy superpower' and end the 'climate wars' that delivered inaction over many years.

9.2 Key environmental economic concepts

This section explains some key environmental economic concepts related to the environment and which will be used throughout this chapter.

Long term economic prosperity

Economic prosperity refers to wealth and is achieved through economic growth (i.e. growth in real GDP). **Long term economic prosperity** refers to providing future generations with high levels of economic growth. It is brought about by providing the infrastructure and capacity for future economic growth and through saving or preserving natural resources for economic agents in the future.

Environmental sustainability

Environmental sustainability involves the preservation of the natural environment into the future by ensuring that current practices do not contribute to environmental harm and reduction of natural resources to levels where they are either unavailable for future generations or available in insufficient quantities. A related concept is that of **sustainable development**, which refers to economic development at a pace that does not erode the ability of future generations to enjoy the same quality of life. It implies some restraint on the part of current generations in their rates of consumption, production and resource use. In contrast, **unsustainable development** occurs when consumption and production in an economy grows at rates where natural resource levels deplete, or the quality of resources deteriorates, such that there are inadequate amounts for future generations to enjoy the same quality of life that is experienced within the current time period.

Carrying capacity

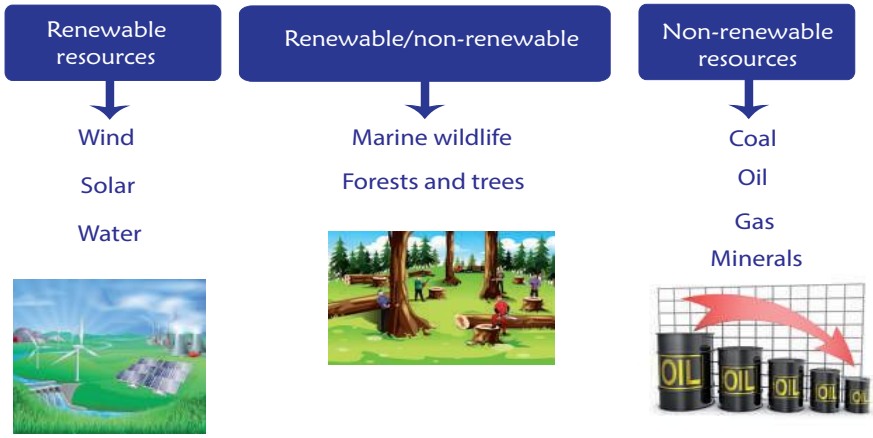
Carrying capacity refers to the maximum size of a population that an area will support without undergoing deterioration. Where a population grows beyond this amount, the quantity of resources used will become unsustainable.

Renewable and non-renewable natural resources

The resource type most relevant to sustainability is that of natural resources. As was learned in Unit 1 Area of Study 1, natural resources are those that occur in nature and includes land, minerals, plants and animals. Natural resources can be further classified as renewable or non-renewable. **Renewable resources** are those that can be easily replenished, such as sunlight or the wind. On the other hand, **non-renewable resources** are those that once used are no longer available, which take a long time to replenish, or their over-use results in eventual extinction of the resource. **Fossil fuels** are a type of non-renewable resource that once extracted are no longer available for use in the future. Fossil fuels are created from decomposed plants and animals and occur in the earth's crust. They are also referred to as **'carbon-based fuels'** and include coal, oil and gas. They are carbon-based because the creatures from which they are created were once alive.

Forestry and marine wildlife are also examples of resources that can be considered non-renewable because of the time they take to regenerate. In the case of marine wildlife, if these are taken out of the ocean (or extracted) at a low rate, then the wildlife will have time to breed or regenerate. However, if large amounts are taken in a short period, then this type of natural resource will not have time to regenerate and will eventually become extinct. In this way, the extraction or the use of the resource is unsustainable.

Figure 9.1
Categories of natural resources



Tragedy of the Commons

The problem of individuals in society using an excessive amount of non-renewable resources is known as **Tragedy of the Commons**. This terms refers to a situation when short term **self-interest** is considered above the good of society. It occurs where individuals share a common resource that is slow to renew, such as a fishery that contains marine wildlife. Where each individual only takes an amount that enables the resource to 'renew' or remain of sufficient size and quantity, then the use of the resource is sustainable. However, if any individual takes more than this amount, the resource will not be able to renew and, as a consequence, there will be less for everyone in the society. Individuals concerned about the potentially unsustainable behaviour of others might then start to take additional resources for themselves, thereby contributing further to resource depletion. A fundamental contributor to the existence of the Tragedy of the Commons is that the resources that are being overused are not privately owned. In other words, no-one can be excluded from using the resources because, unlike something like a house or private land, the resource is not 'owned' by anyone. Hence they are subject to overuse and exploitation. The Tragedy of the Commons therefore occurs when individuals act in their own self-interest and consume a non-renewable resource at a higher level than is socially optimal – society is worse off as a result.

Tragedy of the Commons can be applied to climate change. When the actions of one economic agent contributes to the rise in carbon dioxide (CO2) emissions, this in turn contributes to rising temperatures and the problems associated with this for all of society. There are many activities that contribute to CO2 emissions, including the production and use of energy, petrol-powered vehicles, machinery and equipment, as well as travel and demand for goods that must be transported over long distances.

Review questions 9.1

1. Define climate change and outline a major cause of climate change.
2. Outline why governments may have been resistant in the past to aggressively address climate change.
3. Define long term economic prosperity and explain how long term economic prosperity can be improved.
4. Define environmental sustainability.
5. Distinguish between sustainable development and unsustainable development.
6. Define carrying capacity.
7. Distinguish between the renewable resources and non-renewable resources.
8. Using an example, explain how a renewable resource can become non-renewable.
9. Explain what is meant by the Tragedy of the Commons.
10. Explain how Tragedy of the Commons applies to climate change.

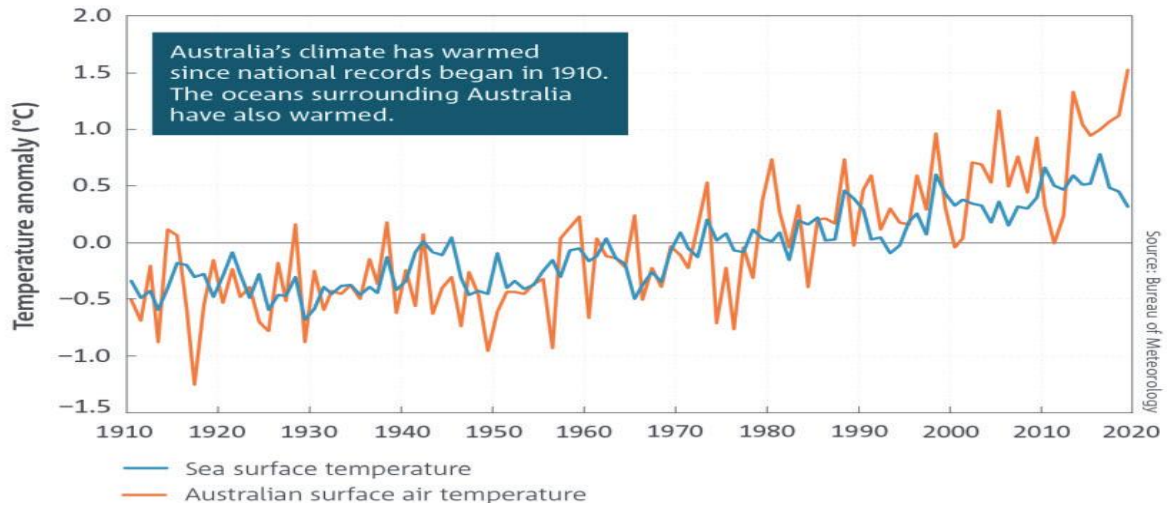
9.3 Climate change and global warming as environmental challenges

Climate change and global warming

Australia, along with other countries around the world, faces a number of environmental challenges. Climate change is arguably the most important, which explains the concerted global cooperation to address the challenges it poses for humanity. As mentioned in the chapter's introduction, climate change refers to the long term shifts in weather patterns and is associated with global warming or rising temperatures.

Chart 9.1 shows the rise in temperatures in Australia over the past one hundred years. Climate change and global warming are both caused by the emission of greenhouse gases. These gases form a barrier around the planet which in turn prevents heat from the sun from escaping earth's atmosphere. In this way, the gases create the same effect as a greenhouse, hence the name. Specific greenhouse gases include carbon dioxide, methane and nitrous oxide. Carbon dioxide is produced by the burning of fossil fuels, which are natural fuels found in the earth. Examples of fossil fuels include coal, oil and natural gas. Emissions from the use of fossil fuels not only cause climate change but also result in air pollution and therefore have a negative impact on air quality.

Chart 9.1: Changes in Australian land and sea temperatures over the past decade



Source: https://www.climatechangeinaustralia.gov.au/en/changing-climate/climate-trends/australian-trends/

Australia is a major producer and exporter of fossil fuels and around one quarter of Australia's export earnings are generated from fossil fuels. Australia produces the following fossil fuels:

Coal: Australia is one of the largest producers of coal in the world. Only a quarter of the coal produced in Australia is used domestically. Major export markets for Australia's coal include China, India and Japan. In this way, Australia contributes to the environmental problems of other countries and climate change globally. Around 75% of Australia's electricity is also generated from coal. Therefore, use of electricity contributes to greenhouse gas production and climate change.

Liquified natural gas (LNG): As with coal, LNG is used to produce electricity. It is also used in heating, cooking and some forms of transportation. LNG is both used for domestic activities and exported. In 2019 Australia became the world's largest exporter of LNG.

Crude oil: While Australia does export some of the oil mined in the north west of the country, it is a net importer of crude oil. One of the major uses of crude oil is in creating fuels such a petrol and diesel through a process of refining. These fuels are used to power motor vehicles used by households and businesses, including cars, trucks, diesel trains and airplanes. Crude oil is also widely used in other applications, such as the production of plastics and solvents, which means that crude oil and the petroleum products it produces, ultimately ends up as a key 'intermediate good' used further in the production process. This also includes the transportation costs associated with the delivery of goods domestically (e.g. via road and rail) and internationally (e.g. via air and sea).

Deforestation as a contributor to climate change

Plants reduce the level of greenhouse gases in the atmosphere by absorbing carbon dioxide. The removal of forests and other areas of vegetation therefore contributes to climate change by increasing the level of greenhouse gases in the air (through reducing the absorption of carbon dioxide and also releasing the carbon that was stored in those forests when they decompose or are burned). The clearing of land is referred to as **deforestation** and has consequences not just for climate change but reduction in **biodiversity,** the variety of plants and animals, through the destruction of flora and loss of habitat for animals. Deforestation has also been linked with soil erosion and **desertification**, turning once productive land into deserts that make it difficult for plants to grow and animals to survive.

In Australia, more than fifty percent of forests have been cleared since European settlement. Much of this deforestation has been contributed to by factors such as the:

- use the timber from trees in construction;
- use of land for crops and livestock;
- growth in mining activity; and
- spread of cities and towns that support growing populations (and desires for larger houses).

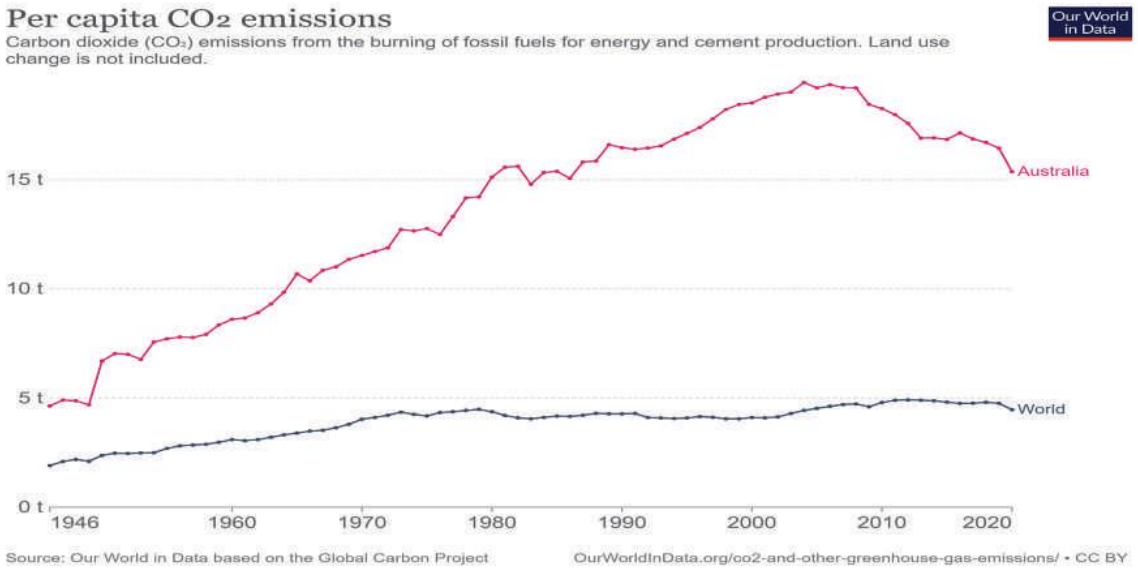
Land clearing has been more focused in the eastern states and areas of urbanisation in these states. Queensland is the state with the highest patterns of land clearance.

Consumers contribute to deforestation through their demand for beef products, such as meat and hides (used to make leather). As with fossil fuels, the export of livestock products and grains from crops contributes to Australians export earnings and therefore economic growth, employment and incomes. In 2021, the sale of these products to other countries earned Australia more than $20 billion and contributed approximately 8% of export earnings. Government policies have at times contributed to deforestation, for example, governments have provided subsidies for land clearing as a means of supporting economic activity. However, over the last twenty years levels of clearance have slowed due to government actions that are increasingly driven by a greater concern for the environment, including legislation to reduce land clearing.

Current Australian performance on key environmental measures

As shown in Chart 9.2, Australia's greenhouse gas emissions per person are around three times the world average, largely due to Australia's fossil fuel production and consumption. Australia produces more than 15 tonnes of carbon dioxide per capita annually, and in 2021 was ranked 11th in the world in terms of emitters, with the countries ranked above Australia being major oil producing countries.

Chart 9.2: Australia's carbon dioxide emissions compared with other countries



According to World Bank data, Australia's rate of natural resource depletion of 2.6% of Gross National Income far exceeded the world average of 1% in 2019. This is concerning because these resources are non-renewable and once gone are no longer available for future generations. This category also encompasses fossil fuels, which means that Australia is a relatively large contributor to climate change through its mining of these energy sources.

Biodiversity has declined in Australia due to clearing of land for commercial purposes, loss of habitat due to extreme weather patterns associated with climate change and the introduction of non-native wildlife that has taken over land. Since 2000 the government has enacted legislation to address the decline in biodiversity.

Australia's *State of the Environment Report* also reveals that, compared to other countries, Australia's air and water quality remain relatively good, although airborne pollutants sometimes exceed standards in cities. Extreme weather events associated with climate change occur, such as bushfires and dust storms, adversely impacting air quality.

Review questions 9.2

1. Distinguish between climate change and global warming.
2. Define 'greenhouse gases' and outline the main greenhouse gases.
3. Explain how greenhouse gases contribute to climate change and global warming.
4. Define 'fossil fuels' and illustrate your definition with examples.
5. Identify one issue other than global warming that is caused through the burning of fossil fuels.
6. Discuss the importance of coal to the Australian economy.
7. Referring to Figure 9.2, describe the change in Australia's surface temperature over the past thirty years.
8. Explain how consumers have influenced deforestation.
9. Explain how deforestation contributes to climate change.
10. Discuss Australia's performance on greenhouse gas emissions and natural resource depletion.
11. Explain why Australia's level of natural resource depletion is problematic.

The impact of climate change on the Australian economy

Climate change has negative consequences for the Australian economy and living standards of Australians both in the present and in the future. In recent years, extreme weather patterns associated with climate change in the form of bushfires and floods have impacted Australia's eastern states. In 2020, there were severe bushfires, and then in 2021 and 2022, flooding in Queensland and northern New South Wales. Bushfires not only cause destruction of resources, but also cause land to become barren, which increases the run-off of water and leads to flooding rather than rain being absorbed into the ground (and adding to the water table). Warmer atmospheres, caused by global warming, hold more water that is likely to be released in short intense downpours and further contribute to flooding.

Floods and bushfires have destroyed commercial agricultural crops, reducing the supply of certain fruits and vegetables, causing the price of these products to rise. This has a direct impact on consumers, as fruit and vegetables are a key component of every day diets and an important food source for Australian households. Rising food prices result in less money to spend on other items and therefore negatively impacts on material standards of living. In addition, farmers who produce these crops have had their livelihoods disrupted and it will take some time, up to several years, before they are able to grow more crops and earn the same levels of income that they previously received. This has therefore impacted negatively upon agricultural production, reducing incomes and expenditure of farmers and others employed in this sector of the economy.

Application Exercise 9a: Great Barrier Reef

The Great Barrier Reef (the Reef) is arguably one of Australia's great tourist attractions. It is the largest coral reef in the world extending for around 2000km off the coast of Queensland. The Reef is recognised by the United Nations on its World Heritage List and is identified as one of the seven natural wonders of the world. More than 50,000 people are employed in Reef related industries such as tourism and fisheries. There are estimated to be around 2 million tourists visiting the Reef each year of which a significant proportion are those from overseas and interstate.

Climate change is having a significant impact on the Reef in a number of ways:

- Coral bleaching: refers to coral losing its symbiotic algae and pigments and turning white. Coral bleaching is a stress reaction by coral to higher sea temperatures caused by global warming and marine heat waves. Bleached coral is not dead but is more susceptible to disease and starvation. Coral that has recovered from bleaching generally cannot grow as well as healthy coral. If temperatures do not fall, bleached coral is at risk of dying. Coral is able to recover from bleaching if there is a sustained decrease in water temperatures.
- Ocean acidification: this is caused by the absorption of carbon dioxide in the atmosphere. Increased levels of carbon dioxide, caused by burning of fossil fuels and deforestation, has decreased the pH level of water in the Reef. Higher levels of acidity in water lessens the ability of coral to build skeletons and form reefs. Such reefs provide habitat for marine life and protect coast lines.
- Extreme weather events: Cyclones and severe storms damage coral and marine life in the ocean. Such events are predicted to increase in both frequency and severity in future years due to climate change.
- Displacement of marine species: Due to higher water temperatures, many marine species are moving to cooler habitats in the south. This results in crowding of cooler waters and increased competition for food in these areas. The migration of marine life away from the Reef has adverse impacts on local ecosystems and food sources.

Questions/tasks

1. **Describe the contribution made to Australia's economy by the Great Barrier Reef.**
2. **Explain how climate change has caused coral bleaching.**
3. **Explain how ocean acidification is caused.**
4. **Explain how global warming is changing where marine life is located.**
5. **Discuss how climate change and global warming is impacting food sources in Queensland.**
6. **Discuss how climate change and global warming is impacting tourism in Australia.**

In 2019, in response to the prevalence of natural disasters in Australia, the federal government set up the **Emergency Relief Fund** which enables up to $200 million to be allocated annually to disasters. Additionally, the 2022 Federal Budget committed more than $6 billion for flood relief in south-east Queensland and northern New South Wales. There is an opportunity cost of using this money in terms of the foregone opportunity to enjoy the benefits that would otherwise be created if the funds were used to generate economic growth, such as expenditure on education or training, or the provision of infrastructure like road or rail networks. Personnel from the Australian Defence Force have been used to respond to natural disasters, providing logistical support and distributing food and managing emergency accommodation, which arguably reduces their core focus on defence and providing Australia with national security.

Climate change is linked to destruction of coral in the Great Barrier Reef, a major Australian tourist attraction, as discussed in Application Exercise 9.1. Deterioration of tourist attractions, plus unsafe weather patterns, reduce the attractiveness of Australia as a tourist destination and puts at risk the Australian tourism industry. Tourism is a major export for Australia, with the ABS reporting that tourism directly contributed more than $60B to the Australian economy prior to the COVID-19 pandemic. The industry supports more than 300,000 small businesses and employs more than 500,000 people. With fewer tourists, the income received by these businesses and workers would fall, with obvious negative implications for living standards. If people employed in tourism are not able to find alternative employment, they cease to pay income tax, a source of revenue for the government, and may move to welfare payments, which increases government expenditure, further reducing the ability of the government to spend on other areas that could enable economic growth.

Increases in government spending in the current period, to respond to natural disasters and provide welfare payments to those impacted, adds to the Federal Budget deficit and level of government debt, creating interest payment and debt repayment obligations for the future. This means that government earnings must be used for debt servicing rather than spending on items that would provide services to future Australians, such as hospitals or parkland, and risks higher tax rates for future generations in order to service and repay the debt.

The impact of climate change internationally

The impacts of climate change experienced in Australia are also being experienced by countries globally. Many other countries are experiencing an increase in severe weather patterns in the form of droughts and floods, plus rising land and sea temperatures, as a result of global warming. Some of the specific impacts around the world include:

- In the Solomon Islands, at least five reef islands have been lost to the sea-level rises and coastal erosion and other islands in the region have been severely eroded.
- Rising sea temperatures have diminished fish populations and reduced this food source for people living on islands or coasts.
- In central and northern Africa there has been an increase in desertification which has displaced people that were reliant on the land for their food and way of the life.

The United Nations estimates that more than 21 million people have been displaced over the past decade due to the impacts of climate change. Their modelling suggests that this could rise to more than 1 billion people by 2050. These people are referred to as **climate refugees.**

Clearly there are significant impacts on the quality of people's lives globally as a consequence of climate change, thereby reducing both material and non-material living standards. Destruction of food sources and government spending, firstly, on responding to climate change that has occurred (also called '**adaptation**'), and secondly, reducing future impacts of climate change (also called '**mitigation**'), impact negatively on present material living standards and the ability to achieve economic growth in the future.

Intergenerational equity and the potential trade-off between current economic growth and the economic prosperity and living standards of future generations

Intergenerational equity refers to fairness in resource use between generations, more specifically, current and future generations. Using a higher quantity of resources within the current time period can diminish the amount of resources, especially non-renewable resources, available for future generations, along with creating other problems for them. Examples of these trade-offs between current economic growth and future economic prosperity include:

- Fossil fuels are non-renewable, therefore, any that are used in the present time period are not available as an energy source in the future. This may limit future productive capacity or result in a need for higher cost energy sources in the future, raising production costs and having a direct impact on material living standards.
- Producing greenhouse gasses by using fossil fuels in the current time period will contribute to climate change and global warming which will have a range of impacts for future generations that have been explored – higher temperatures, increased severity of weather patterns, rising sea levels and coastal erosion that can impact coastal cities and towns. These impact negatively upon quality of life in non-material terms. They also impair material living standards via reduced output, employment and incomes, as well as through higher food prices as a consequence of crops and marine life being destroyed.

- More government funding will need to be directed to the issues faced (e.g. to fund reconstruction efforts), thus reducing the government's capacity to provide services that improve living standards and infrastructure and other initiatives that could increase the economy's supply capacity.
- Clearing of forests for infrastructure, commercial farming and housing not only lessens the forests available for the future generations, but also contributes to deforestation which worsens the impacts of extreme weather events and the buildup of greenhouse gases, as a consequence of fewer trees being available to absorb carbon dioxide. Excessive clearing and use of land around cities in the current generation will mean the spread of cities, or urban sprawl, further exacerbating these issues.
- Over-farming of land in the current time period will tend to diminish soil quality and mean that future generations are not able to achieve as much output from land resources in future, reducing future food supplies and food security.
- Depletion of marine wildlife will diminish this food source for future generations and should result in higher prices as well an increased demand for, and prices of, alternate food sources.
- The Great Barrier Reef is not only a tourist destination for international tourists. Destroying this and other coastal areas will reduce the holiday options for Australians in the future, thereby impairing the quality of life (or non-material standards of living) of Australians.
- Lower levels of biodiversity and reduced species of plants and animals, as a consequence of climate change and deforestation, can lessen enjoyment from nature for future generations and thereby contribute to further reductions in non-material living standards.

In this way, achieving a higher level of economic prosperity in the current period can have a negative impact on both the material and non-material living standards of future generations.

Review questions 9.3

1. Discuss examples of extreme weather events that have impacted Australia over the last five years.
2. Discuss how extreme weather events have impacted the markets for fruits and vegetables. In your response refer to supply and demand factors and/or use a demand/supply diagram to illustrate.
3. Discuss the impact of extreme weather events on incomes in the agricultural sector and how this impacts on the Australian economy.
4. Describe Australian government responses to extreme weather events.
5. Discuss the opportunity cost of government funding allocated to dealing with extreme weather events.
6. Describe how climate change is impacting the Australian tourism sector.
7. Describe the impact of spending on climate change on the level of government debt and implications of this for future government spending.
8. Describe how the material and non-material living standards of people in other countries have been impacted by climate change.
9. Explain what is meant by intergenerational equity.
10. Describe how intergenerational equity can be reduced through striving for higher levels of economic growth in the present time period.

9.4 Economic factors influencing the extent of environmental challenges

The concept of market failure

In Unit 1 Area of Study 2, the concept of markets was introduced and the conditions for perfectly competitive markets set out. Where the conditions for perfectly competitive markets are met, resources are allocated efficiently. There are certain circumstances where markets do not allocate resources efficiently and, in these cases, markets are said to fail. Market failure is referred to as a situation in which markets do not operate efficiently, resulting in a less than optimal allocation of resources. Market failure and situations where markets fail to allocate resources efficiently is explored in greater detail in Unit 3 VCE Economics.

One form of market failure is that of negative externalities. In a regular market transaction, the only impacts of a transaction are on the buyer and seller. For example, if a consumer buys a bottle of water, the consumer gains satisfaction from consuming the water and the seller of the water receives the benefit of payment for the water. In this transaction, the benefits of consumption and production of the water are confined to the consumer and the producer. However, in some transactions there are impacts on those not directly involved in a transaction. Those not involved in the transaction are referred to as **third parties** and the impacts on third parties are referred to as **spillover effects**.

These spillover effects can be beneficial or detrimental. For example, if a person was to purchase a cigarette, the consumer would enjoy the direct benefits that smoking provides and the seller would enjoy the benefit of payment. However, smoking a cigarette also imposes costs to third parties in the form of polluting the air around them which has a detrimental impact on those breathing the air (i.e. passive smoking). Economists would describe this transaction as having **negative externalities**. In contrast, if a business funds and conducts research and discovers a cure for a disease that helps others in society, this would have beneficial spill-over effects. Economists would describe the transaction as having **positive externalities**.

These externalities (both positive and negative) are considered forms of the market failure as the third party (spillover) costs or benefits are not considered in the transaction and, as a consequence, too many or too few resources would be allocated to their production. For example, in the case of a product with negative externalities, there would be an over production of these products (e.g. cigarettes), with too many resources being allocated to their production compared to what is considered **'socially optimal'**. In the case of products with positive externalities, there would be an under production of these products (e.g. Research and Development), with too few resources being allocated to their production compared to the 'socially optimal' allocation of resources.

Governments undertake actions to correct market failures such as externalities, including taxing products with negative externalities to raise the price of such products and reduce the quantities of products traded, or subsidising products with positive externalities in order to lower the price of such products and increases the quantities of products traded. These types of interventions are ultimately designed to 'internalise the externalities' such that the consumers and producers will take into account the third party costs (or benefits) associated with these transactions. For example, in Australia, excise duty is applied to cigarettes, which is a tax paid by the producer. It has the effect of raising the price and therefore forcing consumers to indirectly take into account the third party costs imposed by their consumption of cigarettes. This reduces the demand for and consumption of cigarettes, thereby decreasing the quantity traded and diverting resources away from cigarette production (and towards some other activity). In this way, resource allocation in society becomes more socially optimal, with fewer resources allocated to cigarette production. Petrol is another example of a product whose production and consumption results in negative externalities, which explains why there is a relatively large excise duty of 44 cents per litre imposed on producers.

Application Exercise 9b: Subsidies designed to reallocate resources

A government response to encourage the consumption of a product with positive externalities is to provide a subsidy to either the producer or consumer of a product. A subsidy to a producer (a 'producer subsidy') will enable the producer to reduce the price of the good or service, while a subsidy to a consumer (a 'consumer subsidy') will offset part of the amount of money a consumer needs to pay for the product - meaning the overall cost of purchasing the product will be lower. A subsidy paid to a producer shifts the supply curve to the right, while a subsidy paid to a consumer shifts the demand curve to the right. Either type of subsidy will result in an increase in the quantity of the product consumed and produced and therefore result in more resources being allocated towards the production of the good or service. It is for this reason that the government provides subsidies for products that create and/or use renewable energy in order encourage economic agents to substitute away from non-renewable energy sources. For example, governments around Australia typically subsidise the cost of solar panels for households, which ultimately reduces the cost for households to install these renewable energy systems and rely less on carbon intensive forms of energy production, such as coal fired electricity.

Questions/tasks

1. **Distinguish a producer subsidy from a consumer subsidy.**
2. **Draw a demand and supply diagram to illustrate the impact on the market for solar panels in the event that the government provides a consumer subsidy.**
3. **Draw a demand and supply diagram to illustrate the impact on the market for solar panels in the event that the government provides a producer subsidy.**
4. **Explain how a consumer subsidy supports consumption and production of the product despite the subsidy causing an increase in the market price of the product.**
5. **Using the diagrams drawn for the previous questions, explain how the use of subsidies helps to achieve a more efficient allocation of the nation's resources.**

A second type of market failure that is applicable to natural resources is that of **common access resources** (CAR). Regular products that are produced and consumed in the economy are typically both excludable and depletable (or rivalrous). Excludability refers to the ability to restrict access to the product to only those that pay for it, while depletability means that if one economic agent consumes the product the same product is not available for others to consume. [As with externalities, this type of market failure is further explored in Unit 3.]

There are certain natural resources that it is difficult to prevent the consumption of by those who do not pay for them, such as fisheries or fresh air. Because of the non-excludable nature of common access resources, rational economic agents will be unwilling to pay for a product they could enjoy for free. This is referred to as the **free-rider problem** and means that such products cannot have a price assigned to them and, consequently, markets cannot operate effectively or efficiently. For a product such as fisheries, it would result in excessive consumption of marine life and eventual extinction (i.e. fish stocks are depletable). This is an example of the **Tragedy of the Commons** discussed earlier in this chapter, and applies to many resources that we use every day, including fresh air, forests and waterways.

Government responses to the existence of common access resources revolve around the need to create incentives for economic agents to price 'the environment' into decision making. This often involves measures such as the provision of licenses or permits, where those who use a fishery, or pollute the air, are required to purchase a license or permit to do so. The permits/licenses are directly related to the quantity of resources removed, or pollutants released, providing the ability for governments to adjust the size or nature of the permit in order to achieve greater control over the quantity of resources available for use over time. Governments can also seek to achieve a more direct manipulation of prices via the implementation of a tax on resources removed (or the emissions created), such as a carbon tax, or even the creation of a variable pollution price, such as an emissions trading scheme. This is considered in more detail below in Section 9.5: Economic policy responses to climate change.

The concept of efficiency was learned in Unit 1 Area of Study 1 in examining the production possibility model. Generally, efficiency refers to achieving the most from a fixed set of resources. **Productive efficiency** occurs when the highest level of output is achieved from resources, whereas **allocative efficiency** occurs when the highest level of satisfaction or utility is achieved. A third type of efficiency is that of **intertemporal efficiency** – this occurs when resources are optimally balanced between current and future generations.

In the case of market failures like externalities and common access resources, in the absence of government intervention it is fair to say that productive efficiency will be higher than otherwise in the short to medium term. This is because there will be an overuse, or exploitation, of current resources such that national output will be maximised. In relation to allocative efficiency, this would not be achieved because there would be an over allocation of resources to the production of goods and services that diminish national welfare over time. In other words, not addressing these market failures ultimately leads to a suboptimal allocation of the nation's resources. Intertemporal efficiency is compromised because resources are either depleted or impaired for future generations.

How economic growth can negatively impact the environment

As has been discussed in previous chapters, economic growth occurs when there is a larger amount of production in an economy, as measured by growth in real GDP from one time period to another. This higher level of output helps to increase the material living standards of households (or consumers) in the economy. That is, households, on average, will earn more money and can therefore consume a larger volume of goods and services.

In responding to consumer demand and maximising profit opportunities, businesses will generally not consider the impacts of their activities on third parties unless compelled to do so, either by the government or by public scrutiny. As mentioned earlier in this chapter, businesses use fossil fuels in production methods, such as through their use of electricity, and to transport goods they produce. The burning of fossil fuels not only contributes to global warming, but causes air pollution by releasing compounds such as CO_2, nitrogen oxides, volatile organic compounds and fine particulate matter. Given that economic growth provides households with more material wealth, they will typically add to the production of fossil fuels and contribute to resource depletion in a variety of ways, such as building larger homes, buying additional or larger vehicles that consume more fuel, undertaking more travel for leisure, and spending more on energy intensive electrical appliances, such as televisions, computers or white goods. Without government intervention, businesses and households are less likely to consider the impacts of their production and/or consumption on CO_2 emissions or resource depletion. This compromises both **allocative efficiency** and **intertemporal efficiency.**

In summary, market failure has a number of environmental consequences:

- Consumption of fossil fuels at levels higher than are socially optimal. The use of fossil fuels causes both climate change and global warming, and have a number of specific environmental consequences including:
  - Destruction of natural resources due to severe weather patterns such as bush fires and floods
  - Damage to marine wildlife due to rising sea temperatures
  - Reduction of land area due to rising sea levels
- Removal of natural resources at unsustainable levels. Removal of forests at unsustainable levels results in deforestation and consequences of this including soil erosion and loss of habitat for animals.
- Deterioration of common access resources including forests and fisheries, or areas where fish and marine wildlife are grown.
- Loss of biodiversity and extinction of species due to bushfires and flood that disrupt native flora and fauna on land and rising sea temperatures that destroy marine wildlife.

The potential compatibility between economic growth and environmental sustainability

There can be compatibility between economic growth and environmental sustainability. Higher levels of economic growth and more private sector wealth generally provides more money for governments, as they are collecting more tax revenue (e.g. company tax and personal income tax) and paying out lower levels of welfare payments (e.g. because fewer income support payments are required given that unemployment is likely to be lower). This enables governments to fund investigation and research into renewable energy sources and potentially provide subsidies to businesses and households for the use of these energy sources. In addition, to the extent that households have higher levels of material wealth, they have a greater ability to switch to higher cost renewable energy sources or adopt practices that are more environmentally sustainable, such as purchasing electric vehicles that use less fossil fuels.

Application Exercise 9c: The next mining boom for Australia?

Critical minerals are used to manufacture advanced technologies and in low-emission energy production such as electric vehicles, wind turbines, solar panels and rechargeable batteries. A Tesla car requires around 200 kilograms of minerals such as copper, cobalt, lithium and nickel, and a wind turbine more than eight tonnes of critical minerals, such as copper, zinc and nickel. Australia has large quantities of critical minerals and is the world's largest lithium producer and in the top five countries for another ten critical minerals including cobalt and zircon.

At the same time as there are calls to reduce mining of fossil fuels, demand for alternative energy sources and low-emission energy are generating new mining opportunities in Australia. Lithium is being mined in WA and NT, and there are cobalt mines in NSW and tungsten mines in Tasmania. Mining of critical minerals is predicted to grow in the future as countries throughout the world address climate change and meet their commitments under the Paris Agreement. It is estimated that demand for lithium could increase by up to 4000 per cent over the next two decades.

Job creation in the mining and processing of critical minerals will at least partially offset job losses in the mining of fossil fuels. The Australian government has committed $250M to projects and research associated with critical minerals and has established a $2B fund to provide loans to businesses in the sector.

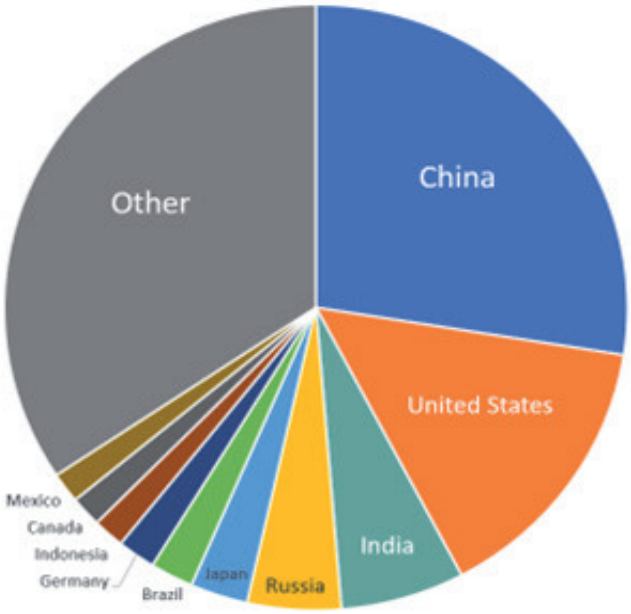
Questions/tasks

1. **Explain what critical minerals are.**
2. **Explain why demand for critical minerals is expected to rise in the future.**
3. **Using the concept of derived demand, explain how an increase in demand for electric vehicles will influence the demand for lithium and impact mining jobs.**
4. **Explain why the global price of lithium is expected to rise before falling to much lower levels in the future.**

The implications of environmental damage for global equity and living standards

The concept of equity is about fairness, not even distribution. When environmental damage is considered from an equity perspective, the question to be asked is "Are the biggest contributors to climate change experiencing the largest impacts?". More than 50% of the world's emissions are produced by four countries – China, the United States, India and Russia, as shown in Chart 9.3.

Chart 9.3 Largest contributors to global warming in the world by country



Source: World Atlas 2022

However, it is often the people in the poorest countries that are experiencing the largest impacts of severe weather events and rising sea levels. The key reasons for this include the following:

- A larger proportion of the economic activity in developing countries occurs in **primary industries**. Such industries are involved in the production of natural resources, whether for domestic consumption or trade with other countries. Such industries can include agriculture and fishing. In more advanced countries, economic activity is dominated by services and manufacturing. For example, in South Sudan around 60% of the workforce is employed in agriculture whereas in Australia less than 3% of the population is. Given that extreme weather events impact primary industries more than other industries, it stands to reason that severe weather events create relatively more economic harm in developing countries compared to advanced countries.
- Poorer countries have much average lower incomes per person and these countries generally do not have the **welfare systems** that exist in wealthier countries, mainly because their governments lack the financial capacity to support such systems. In such countries, if a person does not work, often they do not have money to buy food or support their families. Additionally, because average incomes are much lower than in advanced countries, incomes generally cover only food and basic necessities. When there is destruction of food sources, through a weather event for example, the rapid rises in food prices due to supply side shortages lead to the increased likelihood of malnutrition and even starvation. In this way, weather events often result in pushing people in developing countries to experience what is referred to as extreme poverty and food insecurity. Extreme poverty refers to a situation where an individual lives below a fixed dollar amount, currently United States $1.90. Food insecurity refers to a situation where an individual does not have safe access to a level of nutritious food. The Food and Agriculture Organisation estimates that three quarters of the people worldwide who face acute food insecurity are affected by climate shocks and extreme weather events.
- Developing countries lack the **social and government infrastructure** and support to adequately deal with natural disasters. In Australia, when there have been large scale bush fires, the government has mobilised support directing defence personnel and other workers, providing relief services, food and money. Households not directly impacted by the natural disaster(s) have donated money, goods and services to help those in need. In developing countries, governments cannot fund such relief activities and households have a limited capacity to support those in need.
- Warmer temperatures expose more people in developing countries to diseases such as malaria, zika, dengue and chikunganya. Food insecurity exacerbates malnutrition and vulnerability to disease that arises from it. Again, the

governments of developing countries have limited means to fund health response programs.

- In coastal areas of developing countries, rising sea levels are contaminating soil with salt, a process referred to as **salination**. This lessens soil productivity (i.e. the agricultural output able to be grown from the soil) and further exacerbates food insecurity, production and incomes in these areas. Bangladesh and India are examples of Asian countries that have been impacted by salination, as are coastal developing countries in Africa and South America.
- People in rural areas in developing countries that cannot access adequate food due to climate change migrate to cities and this contributes to problems in these areas relating to **overcrowding**, excessive demands placed on infrastructure and the resulting pollution of important natural resources such as air and water.

As shown in Table 9.1 below, a number of the countries most impacted by severe weather events during 2019 are in Africa and have low rankings in the Human Development Index. In addition, island countries such as Puerto Rico, Haiti and the Bahamas, are particularly susceptible to severe weather events. Rising sea levels and coastal erosion cause strong wave patterns and rising sea temperatures that kill off marine life that are both important food and incomes sources.

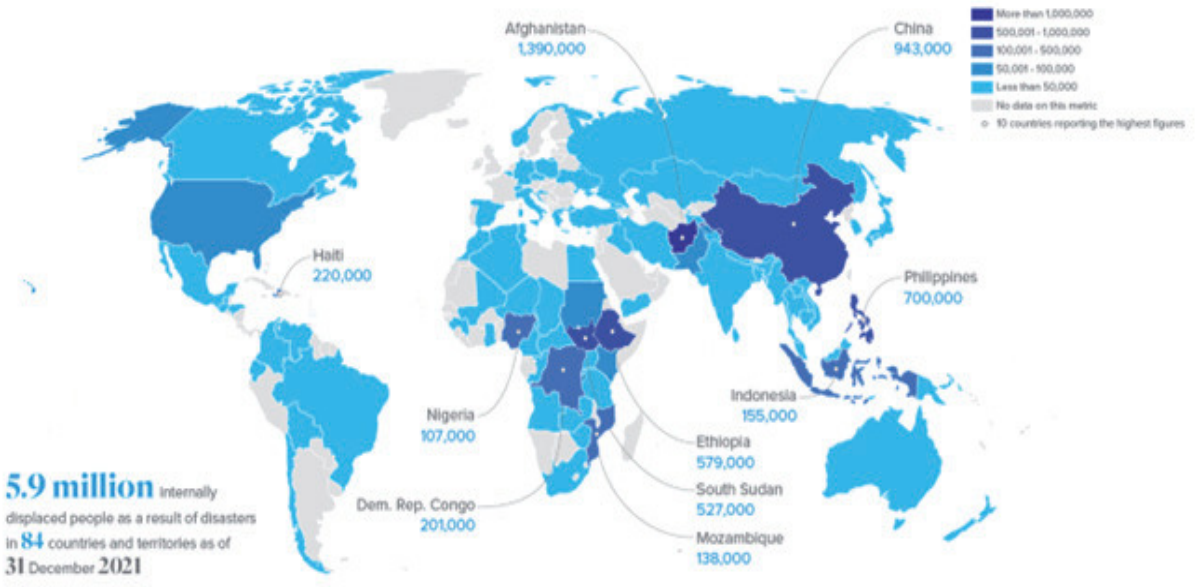
Table 9.1: 10 countries most affected by severe weather events (2019)

Ranking [2019]	Country	Fatalities	Fatalities per 100 000 inhabitants	Absolute losses (in million US$ PPP)	Losses per unit GDP in %	HDI 2020 Ranking
1	Mozambique	700	2.25	4 930.08	12.16	181
2	Zimbabwe	347	2.33	1 836.82	4.26	150
3	The Bahamas	56	14.70	4 758.21	31.59	58
4	Japan	290	0.23	28 899.79	0.53	19
5	Malawi	95	0.47	452.14	2.22	174
6	Islamic Republic of Afghanistan	191	0.51	548.73	0.67	169
7	India	2 267	0.17	68 812.35	0.72	131
8	South Sudan	185	1.38	85.86	0.74	185
9	Niger	117	0.50	219.58	0.74	189
10	Bolivia	33	0.29	798.91	0.76	107

Source: Global Climate Risk Index 2021 [PPP = Purchasing Power Parities. GDP = Gross Domestic Product. HDI = Human Development Index]

Developing countries also have high numbers of climate refugees, or people that are displaced and need to relocate due to natural disasters that are increasing in number and size due to climate change, as shown in Figure 9.2.

Figure 9.2: Internally displaced people due to disasters as of 31 December 2021



***Source**: Internal Displacement Monitoring Centre IDMC | GRID 2022 | 2022 Global Report on Internal Displacement (internal-displacement.org)*

Clearly for people who live in developing countries climate change has had adverse impacts on both their material and non-material **living standards**. Material living standards have been impacted by the loss of means of production and the income that is derived from these, while non-material living standards have been impacted by factors such as:

- stress associated with managing the damage brought about by extreme weather events and subsequently needing to feed families
- the need to relocate to access food and earn income
- separation of families and breakdown of communities as a consequence of relocations.

Despite the benefits of continuing to mine and use fossil fuels in the short term, Australians are increasingly aware of the net impacts of climate change and there is ever growing consensus that action to reduce CO2 emissions are needed in order to protect the quality of life for future generations, both in Australia and globally.

Review questions 9.4

1. Explain what is meant by market failure.
2. Distinguish positive externalities from negative externalities. In your response refer to spillover and or third party effects.
3. Explain why negative externalities are considered a form of market failure. In your response refer to fossil fuel production.
4. Discuss how one government response to a negative externality can achieve a more efficient allocation of resources. In your response make reference to allocative and intertemporal efficiency.
5. Explain how positive externalities can result in a misallocation of resources.
6. Compare subsidies paid to consumers and producers.
7. Discuss why a government may provide a subsidy on renewable energy. In your response refer to how renewable energy is a substitute for another product.
8. Describe the features of common access resources.
9. Discuss what the free-rider problem is and how it can result in over-consumption of a product.
10. Describe how the presence of common access resources influences both allocative efficiency and entertemporal efficiency.
11. Describe consumer behaviours that might negatively impact upon the achievement of intertemporal efficiency.
12. Describe how economic growth and environmental sustainability can be compatible.
13. Discuss how climate change has influenced global equity.
14. Identify and discuss three impacts of climate change on developing countries.
15. Explain how the material and non-material living standards of people in developing countries have been impacted by climate change.

9.5 Economic and policy responses to climate change

Global action on climate change

More than 190 countries, including Australia, have signed an international treaty on climate change known as the **'Paris Agreement'**, because Paris is where it was adopted. The treaty, which was formed in 2015, seeks to limit global warming to below 2 degrees Celsius. Without actions, it is estimated this warming is more likely to be around 4 degrees. Unlike earlier international agreements on climate change, the Paris Agreement is the first legally binding agreement. The Paris Agreement is coordinated by the United Nations and is part of the **United Nations Convention on Climate Change (UNCCC)**, which was established in 1994. Prior to the Paris Agreement, the main initiative of the UNCCC was the Kyoto Protocol. As well as the Paris Agreement being legally binding, a key difference between it and the Kyoto Protocol is that the latter was committed to by developed countries only, whereas developing countries are also encompassed within the Paris Agreement. In addition, the Kyoto Protocol referred to reductions in only six types of greenhouse gases, whereas the Paris Agreement does not refer to any specific greenhouse gases.

Under the Paris Agreement, countries are required to submit **Nationally Determined Contributions (NDCs)**, which is a written statement about their post 2020 climate actions. Under its first NDC, Australia committed to reduce emissions by 26-28% below 2005 levels by 2030.

Application Exercise 9d: Australia's commitment under the NDC

In 2015, Australia committed to reduce emissions by 26 to 28% below 2005 levels by 2030, in its first Nationally Determined Contribution (NDC) under the Paris Agreement. Australia provided updates on its NDC in both 2020 and 2021. In the 2021 update, Australia committed to a target of net zero emissions by 2050 and asserted it was on track to achieve a 30-35% reduction on 2005 levels by 2030.

Australia's current plan to achieve its NDC targets are based on five principles:

1. The use of technology rather than taxes.
2. Expansion of choices rather than mandates, with the government taking on an enabling role for the private sector to adopt new technologies.
3. Driving down the cost of technologies and deploying them at scale across the economy.
4. Protecting competitiveness of businesses and industries by providing reliable and affordable power.
5. Transparency and accountability in emissions reporting.

A second NDC is required in 2025, and every five years after this. In 2022, the new Federal government that was elected committed to reductions in emissions by 43% by 2030. A range of policies and initiatives are proposed to achieve this outcome, however, these are yet to be passed by parliament. Such initiatives include capping emissions from large polluters, upgrading of electricity transmission networks, electric car discounts and batteries to store solar energy.

Questions/tasks

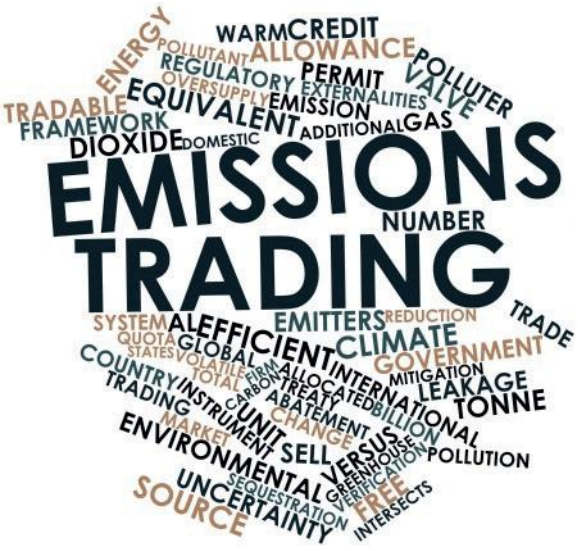
1. **Outline what Australia's commitment is to addressing climate change under the Paris Agreement.**
2. **Identify the strategies the Australian government has adopted to achieve this commitment.**
3. **Explain how the principles referred to will assist in addressing climate change.**

Extension: Investigate one other country's NDC and compare this to Australia's, describing the similarities and differences in the NDCs.

Government policies to reduce emissions

There are three main ways governments throughout the world seek to reduce emissions that contribute greenhouse gases to the atmosphere.

Carbon tax: A carbon tax is a levy imposed by a government on greenhouse gas emissions. The tax is typically calculated per tonne of emissions. This levy, paid by businesses, is designed to put a direct price on emissions and in doing so, incentivises businesses to reduce emissions by switching to more efficient processes or cleaner fuels. Countries that have such schemes include Canada, Finland and South Africa. Australia introduced a carbon tax in 2012, but it was repealed after two years and replaced by a more voluntary program underpinned by government incentives.

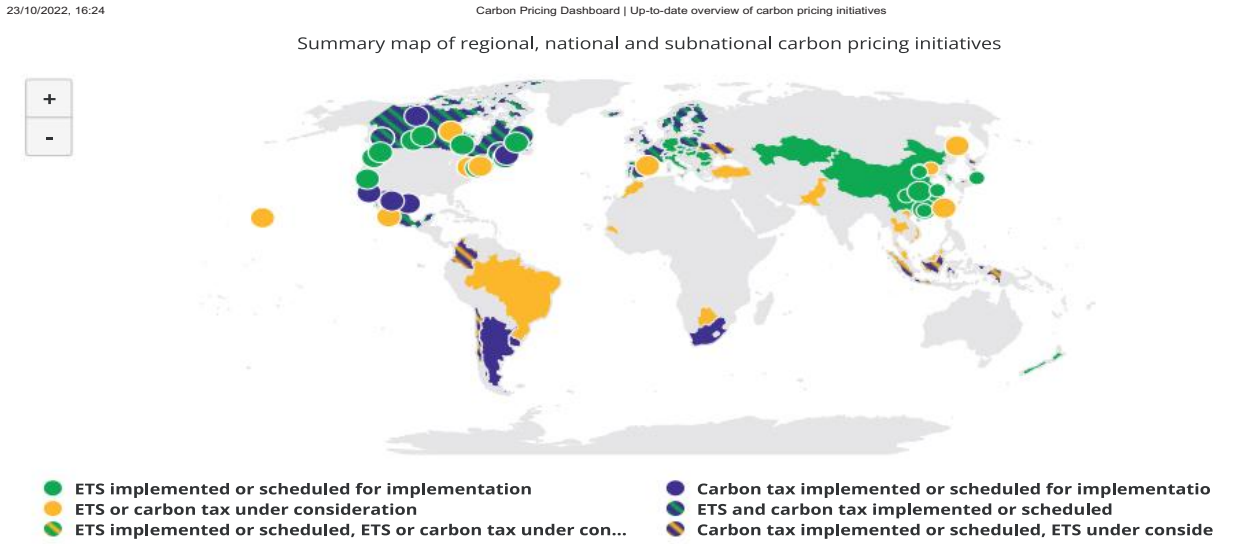


Emissions trading scheme: An emission trading scheme requires participates to obtain permits from the government to emit greenhouse gases. Permits are generally issued per tonne of greenhouse gases. Businesses are able to purchase permits from other businesses, hence the name trading scheme. Over time, the intent is to reduce the volume of permits in existence, thereby raising the price of permits and reducing the quantity of emissions. Both the European Union and New Zealand have emissions trading schemes.

Voluntary program: Australia currently has a scheme where businesses can apply for funding from the government for projects that reduce greenhouse gases or store carbon. This money comes from the federal government's Emissions Reductions Fund, which is funded within the Federal Budget, and includes subsidies for investment into new energy efficient technologies or new business practices that are designed to improve energy use.

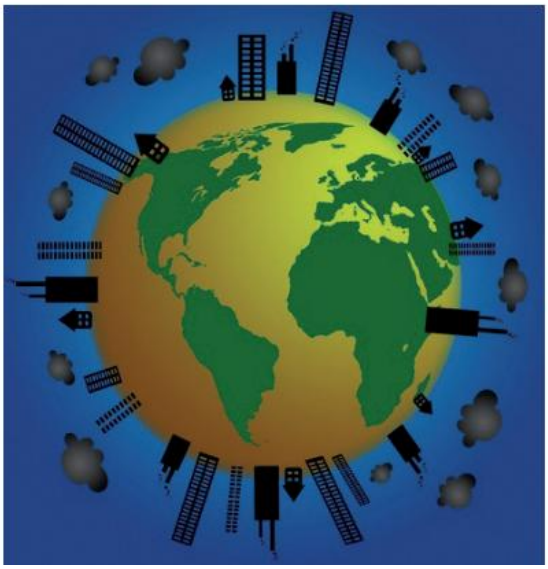
It is estimated that current and planned carbon taxes and emission trading schemes by governments that have committed to the Paris Agreement will reduce more than twenty percent of greenhouse gases globally. Figure 9.3 shows the different schemes adopted by countries globally.

Figure 9.3: Carbon pricing initiatives2



Source: World Bank 2022 https://carbonpricingdashboard.worldbank.org/map_data

The clear benefit of a tax on emissions over a subsidy is that a tax earns money for the government which can then be used to undertake a range of other initiatives to address environmental issues. In contrast, a subsidy requires funding by the government which limits the ability of the government to fund other programs and therefore comes at a higher opportunity cost for the government. If a government uses a subsidy, funding for the subsidy can be jeopardised due to other competing government priorities, such as the need to achieve **fiscal consolidation** (i.e. reduce the size of the budget deficit over time), or a need to focus on other areas of the economy requiring support, such as investment in public housing.



A tax or a scheme that requires permits also forces businesses to pay for their emissions and therefore (arguably) provides a stronger incentive to undertake actions. Behavioural economists assert that economic agents have **loss aversion**, meaning that they feel more strongly about an amount being taken away from them (e.g. via a tax) than gaining the same amount (e.g via a subsidy). A benefit of permits and trading schemes is that limits on the amount of emissions can be lowered in order to assist governments in meeting their goals. Despite the benefits of a tax or permit scheme, either initiative adds to business costs, which is ultimately passed onto consumers. This tends to make these types of schemes unpopular with both businesses and consumers and was what led to the abandonment of a carbon tax in Australia.

The present Australian scheme has attracted criticism, not just for being a subsidy, but also due to its voluntary nature. In some cases, businesses have received payments from the **Emissions Reductions Fund** for initiatives that they would ordinarily have undertaken without the assistance of the subsidy. For example, construction companies may have found it commercially viable to include energy efficient materials in some projects (including the latest and most efficient forms of heating or glazing) without the assistance of a government subsidy. Accordingly, the use of a subsidy in these types of projects is not an efficient way to reduce CO2 emissions. From an emissions perspective, during the two years that Australia had a carbon tax, emissions fell. Since the repeal of the tax in July 2014, emissions have risen again.

Application Exercise 9e: Australia's climate change legislation journey

Australia's progress on climate change legislation has been tumultuous and it was one of the key issues in the 2022 Federal election, where there was a swing toward candidates and parties that campaigned for increased government action on climate change.

In 1997, Australia and the United States were the only two industrialised countries that refused to initially ratify the Kyoto Protocol, the precursor to the Paris Agreement, as an international commitment to tackling climate change. The Australian Prime Minister at the time, John Howard, stated that ratification of the protocol would "cost us jobs and damage our industry". Ten years later the Kyoto Protocol was ratified by Australia, following a change of government.

In 2008, the Australian government announced its intention to implement a Carbon Pollution Reduction Scheme, which was a carbon trading scheme. A carbon trading scheme requires businesses to hold permits to produce emissions. These permits may be purchased from the government or in open markets. In requiring permits, the government can reduce the amount of pollution released into the atmosphere and penalise businesses that do not hold sufficient permits. Legislation to introduce the scheme was initially not passed in parliament. Industry groups, particularly the Minerals Council, lobbied against the scheme claiming it would result in significant job losses. The public was generally not in favour of it due to concerns about the impacts on electricity, petrol and food prices.

In 2010 an Emissions Reduction Fund was established by the government to provide incentives to industries and farmers to reduce emissions. The Fund, a budget allocation for subsidies for emission reduction initiatives, was politically more popular than taxing emissions, as it did not drive up business costs.

In 2011 a carbon tax was passed in parliament, and this began in 2012 with a fixed price set on a tonne of carbon emissions. This meant that businesses that produced emissions needed to pay a certain amount as tax per tonne of carbon that they released into the atmosphere. A fixed price of $23 a tonne was initially set, which was significantly higher than in Europe where businesses were paying between $8 and $13 a tonne, within carbon trading schemes. The carbon tax applied to around 500 of Australia's largest polluters. The government's intention was to move from the fixed tax to a carbon trading scheme in 2015, however, when there was a change in government in 2013, legislation to remove the carbon tax was commenced. In 2014 legislation to remove the carbon tax was passed in parliament.

Since the removal of the carbon tax, the government's main climate policy has been the Emissions Reduction Fund where the government continues to provide subsidies to businesses that conduct initiatives that reduce emissions, such as improving energy efficiency, capturing methane from landfills and storing carbon in forests and soils. In providing subsidies, the government purchases units of carbon abatement from businesses that successfully apply to the scheme. Carbon abatement refers to reduction of the amount of carbon dioxide that is produced when fossil fuels are burned.

The Emissions Reduction Fund has been criticised for not driving enough activity to adequately address climate change issues. In addition, the Australian government has continued to provide approvals for new fossil fuel mining activities. In the 2022 Federal election in Australia, there was a significant re-direction of votes toward political parties and candidates campaigning on climate change indicating that this issue is increasingly of concern to Australians. This may have been influenced by the extreme weather events experienced in recent years in both Australia and across the broader Asia Pacific region, as well as the growing international recognition of the need for action.

Questions/tasks

1. **Distinguish between a carbon tax and an emissions trading scheme.**
2. **Explain why a subsidy would be more favourably viewed by businesses than a tax.**
3. **Explain how providing a subsidy would impact on the government's budget outcome.**
4. **Explain how charging a carbon tax would impact on the government's budget outcome.**
5. **Explain how a carbon tax, or the pricing of carbon more generally, could result in job losses.**
6. **Explain how a carbon tax will influence prices of goods and services.**
7. **Outline why climate change is increasingly of concern to Australians.**

Other Australian initiatives to address climate change

A number of Australian government bodies are involved in climate change responses. Responsibility for Australia's action on climate change is held by the federal Department of Industry, Science, Energy and Resources, while the Department of Agriculture, Water and the Environment delivers climate change adaptation and climate science policy and programs. Other agencies and government organisations that work on reducing or addressing the impact of climate change include:

- the Climate Change Authority which advises the government on Australia's climate change policies and future emissions reduction targets.
- the Clean Energy Regulator which administers the Emissions Reduction Fund and schemes.
- the Commonwealth Scientific Industrial Research Organisation (CSIRO) which undertakes research and investigation into climate change.

- The Australian Renewable Energy Agency (ARENA) which finances low emissions technology and renewable energy projects.

The Australian government has been criticised for its limited action on climate change. The Climate Council asserted that, in the 2022-23 Federal Budget, only 0.3% of government expenditure addressed climate change. Other than via subsidies delivered through the Emissions Reduction Fund, other ways that the government suggests it is addressing climate change includes:

- investing in technologies that lower emissions: initiatives focus on hydrogen industry, improving soil carbon storage and management, carbon capture and investment in future fuels and vehicles to reduce transport emissions.
- reporting on greenhouse gas emissions.
- meeting obligations under the **Paris Agreement**.
- providing **foreign aid** to countries in the Asia Pacific to assist them with climate change.
- progressing **bilateral agreements** with other countries to exchange information, develop best practice and build joint efforts. Countries that Australia is working with include with Germany, Indonesia, Japan, Republic of Korea, Singapore, UK and Vietnam.

Australia also has an excise tax on petrol, however that is not an initiative that has been introduced specifically to address climate change. The main rationale for petrol excise has largely been to fund road network development and maintenance.

Australia's ranking on climate change

Australia's response to climate change has also been criticised by other countries. Australia remains one of the world's largest exporters of fossil fuels – it is the largest exporter of coal and the second largest exporter of liquified natural gas (LNG). In recent federal budgets, spending on climate change has been reduced and spending on initiatives that promote the use of fossil fuels has risen. For example, the government has funded a number of initiatives that involve LNG, including establishing new pipelines and gas production and storage projects.

Climate change and the different perspectives of economic agents

As highlighted earlier, in the lead up to the 2022 Federal election, voters consistently identified climate change as the issue they were most concerned about. This follows years of government inaction in the face of growing evidence that Australians are increasingly being exposed to the direct consequences of climate change in the form of severe weather events and the immediate impacts on prices of goods, such as fruit and vegetables and building materials used in the reconstruction of areas devastated by floods and bushfires. The overall negative effects of climate change, covered earlier in this chapter, will continue to be felt by households, businesses and governments over time. However, there are indeed short term benefits to Australian businesses and consumers of continuing to produce, use and export fossil fuels. This includes benefits in the form of:

- More than 100,000 people are directly employed in fossil fuel industries.
- Households and businesses having access to lower cost energy today, which allows household discretionary spending to be higher. [Recall discretionary spending is that which is left over after paying household expenses such as utilities. Businesses experiencing lower energy costs also means that they are able to keep their prices lower for consumers.]
- Substantial inflow of funds into the Australian economy from exporting fossil fuels.
- Mining companies paying a substantial amount of money to the government in the form of taxes and royalties, which enables the government to fund a range of government services, as well as invest in infrastructure that facilitates future economic activity.

All of these factors enable higher levels of output to be achieved by the Australian economy and therefore contribute to economic growth and material living standards in the present period.

Review questions 9.5

1. Explain what the Paris Agreement involves and what it seeks to achieve.
2. Explain Australia's commitment to emissions reduction in its first Nationally Determined Contribution.
3. Distinguish a carbon tax from an emissions trading scheme.
4. Discuss how Australia's current voluntary program could be less effective than either a carbon tax or emissions trading scheme.
5. Explain why a tax could be more beneficial than a subsidy from an intergenerational equity perspective.
6. Discuss how loss aversion could influence the design of emission reduction schemes.
7. Discuss why the Australian government has not implemented stronger policies to reduce carbon emissions.

9.6 Multiple choice review questions

1. Which of the following is not a fossil fuel:
- a) Coal
- b) Wind
- c) Liquid Natural Gas
- d) Crude Oil

2. The tragedy of the commons is most likely to apply to:
- a) Dairy products
- b) Marine life
- c) Cattle
- d) Electricity

3. What proportion of Australia's electricity is currently generated by coal:
- a) 25%
- b) 50%
- c) 75%
- d) 100%

4. Australia's greenhouse gas emissions are:
- a) Half the world average
- b) Around the world average
- c) Twice the world average
- d) Three times the world average

5. The relationship between fossil fuel burning and climate change can be described as
- a) Positive
- b) Negative
- c) Inverse
- d) There is no relationship

6. Subsidies given to producers of solar panels are most likely to:
- a) Raise the quantity of solar panels produced, and increase the production of coal fired electricity
- b) Raise the quantity of solar panels produced, and decrease the production of coal fired electricity
- c) Reduce the quantity of solar panels produced, and increase the production of coal fired electricity
- d) Reduce the quantity of solar panels produced, and decrease the production of coal fired electricity

7. The negative externality associated with burning of fossil fuels is:
- a) Emissions targets
- b) Air pollution
- c) Intergenerational inequality
- d) Resource depletion

8. A tax on a product with negative externalities that is paid by the producer of the product would:
- a) Decrease demand for the product and reduce the price
- b) Decrease supply of the product and raise the price
- c) Increase demand for the product and lower the price
- d) Increase supply of the product and lower the price

9. Common access resources are both:
a) Rivalrous and excludable
b) Non-rivalrous and non-excludable
c) Rivalrous and non-excludable
d) Non-rivalrous and excludable

10. The type of market failure associated with pollution is:
a) A positive externality where more is produced than is socially optimal
b) A negative externality where more is produced than is socially optimal
c) A positive externality where less is produced than is socially optimal
d) A negative externality where less is produced than is socially optimal

11. Which of the following is not a reason for Australia's lack of progress on climate change
a) Australia earns a large amount of export income from the sale of fossil fuels
b) Many Australians are employed in fossil fuel industries
c) The Australian government subsidises voluntary activities to reduce emissions
d) Renewable energy sources typically cost more than energy generated from fossil fuels

12. The current international agreement on climate change that Australia has signed is the:
a) The Kyoto Protocol
b) The Tokyo Agreement
c) The Paris Agreement
d) A Nationally Determined Contribution

13. Which of the following impacts on efficiency is consistent with excessive consumption of fossil fuels?
a) An increase in both current and future productive efficiency
b) An increase in allocative efficiency and an increase in intertemporal efficiency
c) An increase in current productive efficiency and a decrease in intertemporal efficiency
d) A decrease in intertemporal efficiency and an increase in future productive efficiency

14. The increased incidence of extreme weather events is likely to contribute to:
a) More government revenue through taxes
b) A higher level of government debt
c) Higher production levels
d) More income for farmers

15. Which of the following is likely to have a different impact on CO_2 emissions than the other responses?
a) Subsidies for logging in forests
b) A reduction in research and development funding towards clean energy sources
c) An emissions trading scheme
d) Tax concessions for mining companies

16. A tax on carbon emissions is likely to:
a) Reduce production costs for businesses that produce emissions
b) Increase government debt
c) Encourage businesses that produce emissions to move to production methods that reduce emissions
d) Result in more vehicles on our roads

17. Which of the following government actions will tend to worsen intergenerational equity?
a) Increasing the taxes on petrol
b) Providing subsidies to mining companies
c) Subsidies for investment in wind farms
d) Implementing a permit system on fishing

18. Deforestation tends to:
a) Reduce global warming and decrease biodiversity
b) Increase global warming and decrease soil quality
c) Increase soil quality and decrease biodiversity
d) Decrease soil quality and reduce global warming

19. Which of the following consumer behaviours has a different impact on climate change to the others?

a) Decreasing expenditure on consumer goods from other countries
b) Building larger homes on the edges of cities
c) Replacing petrol fueled cars with electric vehicles
d) Adding solar panels to homes

20. Rising uncertainty and anxiety associated with extreme weather events is most likely to result in:

a) An improvement in material living standards
b) A deterioration in material living standards
c) An improvement in non-material living standards
d) A deterioration in non-material living standards

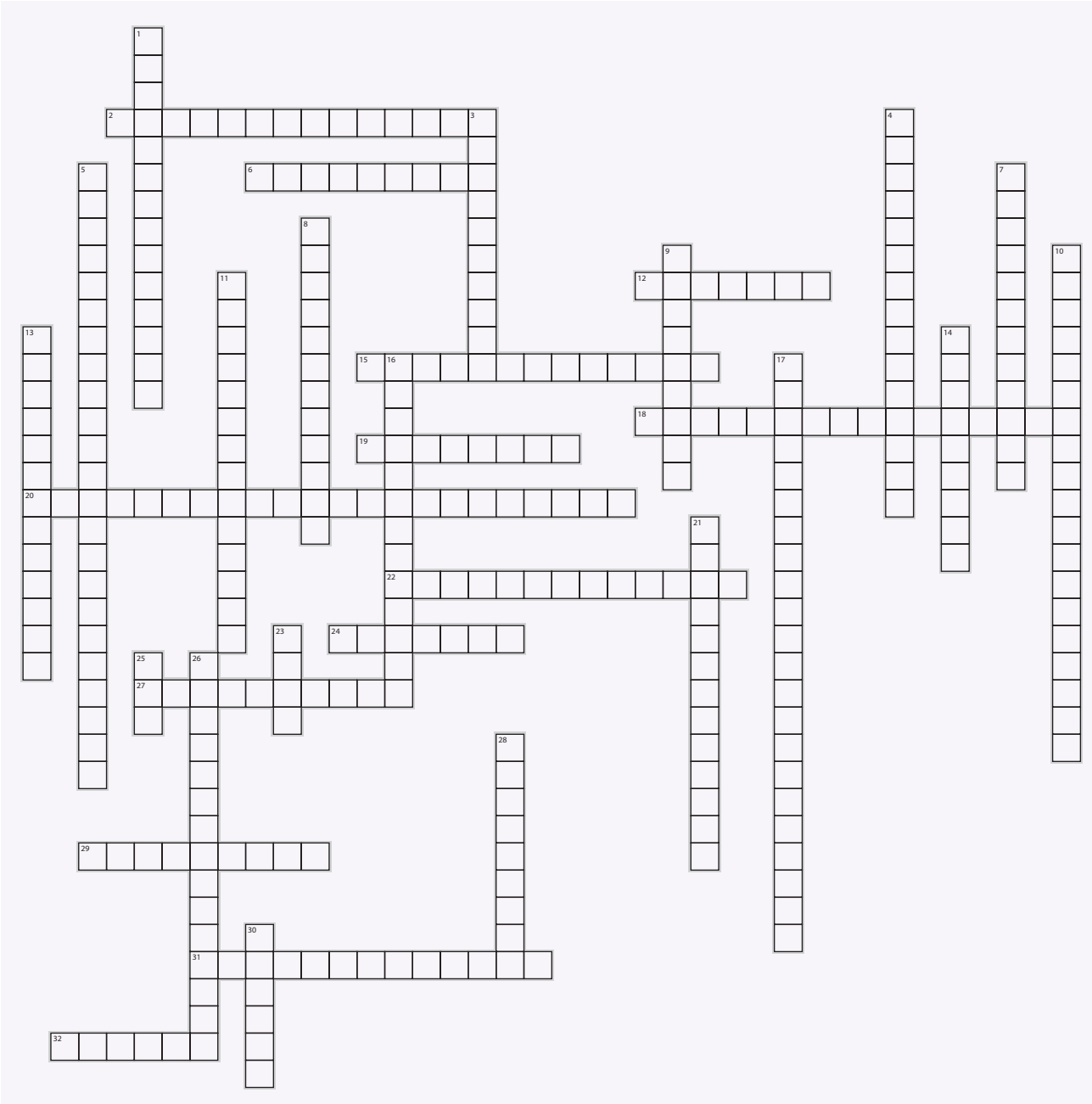
9.7 Chapter crossword puzzle

Across

2. An impact of global warming (2 words)
6. Resources that can be easily replenished
12. A resource that can be renewable provided extraction is limited
15. The coordinator of the Paris Agreement (2 words)
18. The maximum size of a population that an area can support without deterioration (2 words)
19. An activity that helps to identify cleaner energy alternatives
20. The fund from which the government provides subsidies for projects that reduce carbon emissions (3 words)
22. An activity that contributes to climate change
24. A government response to encourage an activity
27. The type of efficiency that pertains to maximising utility or welfare
29. The economic problem that makes common access resources non-excludable (2 words)
31. A general rise in the temperature levels across the world (2 words)
32. An extreme weather event experienced by eastern Australia in recent years

Down

1. An area in the Pacific that has lost reef islands due to rising sea levels (2 words)
3. The type of gases that cause global warming
4. Two words to describe quality of life (2 words)
5. Depleting non-renewable resources negatively impacts this (2 words)
7. Deforestation results in a lowering of this
8. Parties not involved in a transaction but impacted by it (2 words)
9. A characteristic of Australia's current emission reduction system
10. An impact of when individual self-interest is put ahead of the good of society (4 words)
11. Government responses to extreme weather events increase this (2 words)
13. Inefficiency caused by an excessive use of non-renewable resources
14. Payments by mining companies for use of Australian land
16. An attribute of common access resources (2 words)
17. One government solution to climate change (3 words)
21. The precursor to the Paris Agreement (2 words)
23. The fuel for most of Australia's electricity
25. A government response to decrease consumption of a product
26. People displaced by climate change (2 words)
28. Burning of fossil fuels causes this
30. Fuels that come from decomposed plants and animals in the earth's crust



9.8 Chapter summary

1. Climate change refers to changing weather patterns and more specifically an increase in severe weather patterns including floods, droughts, and bushfires as has been experienced in eastern Australia in recent years.
2. In contrast global warming refers to the general rise in temperature levels in a specific geographical area or across the world.
3. Both climate change and global warming are caused through the burning of fossil fuels, such as coal.
4. Climate change and global warming adversely impact both material and non-material living standards.
5. Fossil fuels are non renewable energy sources created from the earth's crust and include coal, oil and natural gas.
6. The burning of fossil fuels for energy contributes to contribute to greenhouse gas emissions. Fossil fuels encompass coal, liquid natural gas and crude oil.
7. Australia is a major producer and exporter of fossil fuels and related industries create significant employment opportunities for Australians.
8. Greenhouse gases form a barrier around the earth and create a greenhouse effect whereby heat is trapped and this causes both a rise in temperatures and changes in weather patterns.
9. Rising temperatures causes discomfort and extreme weather events such as droughts and floods which impact on the quality of people's lives through uncertainty and disruption to every day life.
10. Destruction of resources and reduction of incomes of farmers and workers in agricultural industries has a negative impact on material living standards.
11. Non-renewable energy sources refer to those that, once used, are no longer available.
12. Long term economic prosperity refers to providing future generations with high levels of economic growth and is

brought about by both leaving resources for these generations and generating infrastructure to enable continuing economic growth.

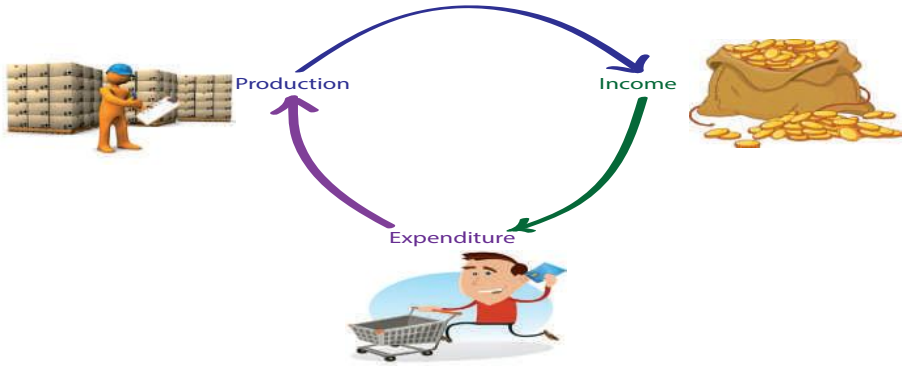
13. Unsustainable development is where excess economic growth and resource use occurs in the present without consideration of the impact on future generations (e.g. resource depletion).
14. Non-renewable resources also encompass resources that may take a long time to regenerate, such as fisheries and forests.
15. The Tragedy of the Commons occurs when individuals act in their own self-interest and do not consider others in their consumption decisions. This may mean that they over consume resources that take a long time to regenerate.
16. The Tragedy of the Commons applies to climate change whereby economic agents contribute to activities that produce emissions that adversely impact on others in society and reduce energy sources for future generations.
17. Deforestation is a contributor to climate change. Trees absorb greenhouse gases and the removal of trees results in more greenhouse gases.
18. Deforestation refers to the clearing of land, which is contributed to by the spread of urban areas, the use of timber in construction, and the use of land for farming – either for agricultural crops or livestock grazing.
19. Clearing of forests often means that animal species lose their habitat and, in this way, deforestation contributes to loss of biodiversity - the variety of animals and plants that exist in an area. Climate change also contributes to loss of biodiversity.
20. Deforestation is also linked to desertification which makes land unproductive and desert like.
21. The demand for beef both domestically and as an export contributes to deforestation and therefore climate change.
22. Australia gains export earnings not only from livestock but also grains which are grown on cleared lands.
23. Australia's greenhouse gas emissions, measured per person, are three times the world average due to fossil fuel production.
24. Australia's rate of natural resource depletion is more than double the world average.
25. Extreme weather events associated with climate change cause destruction of agricultural crops, decreasing supply and increasing prices.
26. Government payments to people impacted by extreme weather events lessen the money the government has for other initiatives, such as the funding of infrastructure to support future economic growth.
27. Climate change adversely impacts Australia as a tourist destination due to both extreme weather events and destruction of tourist attractions, including the Great Barrier Reef.
28. Climate change and global warming are impacting countries around the world. Rising sea levels linked to global warming and melting of ice have caused small islands in the Pacific to be lost and contributed to a reduction in the size of coastal areas.
29. The United Nations estimates more than 21 million people have been displaced due to climate change impacts.
30. Intergenerational equity refers to the fairness in resources between generations. Using more resources in the current time period reduces the resources available for future generations and in this way increases intergenerational inequity.
31. Excessive fossil fuel use also contributes to intergenerational inequity given that it adversely affects the environment.
32. Market failure refers to a situation where markets fail to operate efficiently.
33. One form of market failure is externalities, where the impact on third parties are not considered in a transaction. Such impacts are also referred to as spillover effects.
34. Burning of fossil fuels pollutes the atmosphere and contributes to climate change, which adversely affects all of society. In this way, fossil fuel consumption causes negative externalities.
35. Government actions to address negative externalities include placing a tax on the product in order to raise the price and reduce consumption, or subsidising substitute products to make these cheaper.
36. A second form of market failure is that of common access resources (CAR), which are products that are non-excludable and rivalrous. Because CAR are non-excludable there tends to be overconsumption of such products, which results in the Tragedy of the Commons effect.
37. Allocative efficiency occurs when the nation's resources are allocated in such a way that the highest level of societal satisfaction is achieved.
38. Intertemporal efficiency occurs when resource consumption is optimally balanced between current and future generations.
39. Products that create externalities, such as fossil fuels, can reduce allocative efficiency when the impacts on third parties are not considered.
40. Consumption of fossil fuels can also reduce inter-temporal efficiency, firstly, because fossil fuels are a non-renewable resource and using them reduces the quantity available for future generations, and secondly, burning them damages future productive capacity through climate change and global warming.
41. There is a trade-off between current and future economic growth, and between the material living standards of citizens today and those of the future.
42. Economic growth and environmental sustainability can be compatible when economic growth gives rise to higher payments to the government to investigate and implement environmental policies and potentially subsidise alternatives to fossil fuels. Where households have more wealth they may also opt to choose higher cost products that do not contribute to global warming, such as electric vehicles.
43. Recognising the importance of the climate change, more than 190 countries around the world have signed a legally binding international treaty on climate change, known as the Paris Agreement.
44. Australia has signed the treaty and committed to reduce greenhouse emissions by between 26 and 28% by 2030.
45. Policies used by governments globally to reduce emissions include carbon taxes, emissions trading schemes, and voluntary programs.

Chapter 10
Distribution of income and wealth

10.1 What is income and wealth?

In Chapter 6 we examined the circular flow of income in the economy as summarised in Figure 10.1. Over time, all income earned in the economy must ultimately equate to the total value of production. This idea was demonstrated using the example of the farmer, miller and baker involved in the production of a simple product like bread. Ultimately, the value that is added along each stage of the production process becomes somebody's income. But how can we define income?

Figure 10.1
Circular flow of income



The ABS collects income statistics via the Survey of Income and Housing (SIH), focusing on the income of persons aged 15 years and over who are residents in private dwellings throughout Australia. In the latest 2019 survey, 23,000 households were questioned from a cross section of Australian households and the information was then 'extrapolated' to reflect the position that is expected to exist for Australia. In its publication, Household Income and Income Distribution, Australia (ABS Catalogue 6523.0), the ABS defines household income in the following way:

> ***Household income consists of all current receipts, whether monetary or in kind, that are received by the household or by individual members of the household, and which are available for, or intended to support, current consumption.***

In simple terms, income refers to money received by a household or other entity that is available to purchase goods and services. It not only includes cash (such as the wages received from employment) but other receipts, such as the use of a company car or other non-cash benefits provided by employers. These can be referred to as **income in kind**.

The following receipts are common examples of income earned by Australian households.

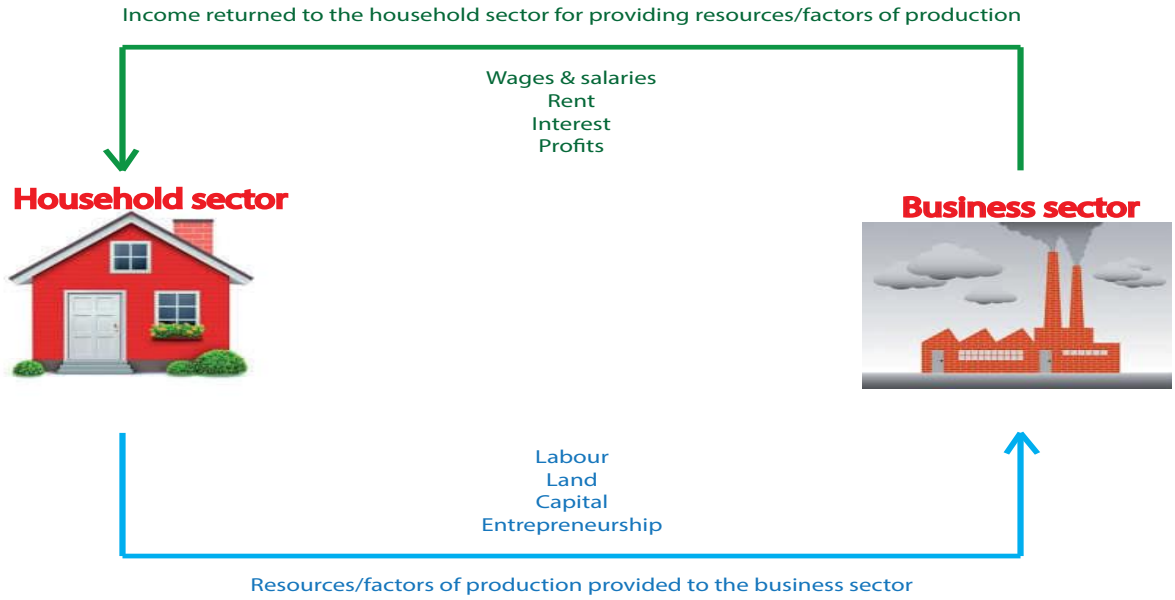
- Wages and salaries received from an employer
- Dividends received from a company
- Profits received from owning an unincorporated business (i.e. a business that is not registered as a company)

- Rent received by a landlord
- A pension received by a retired person
- Job search allowance received by an unemployed person
- Royalties received by artists and authors
- Private cash transfers (such as child support payments and superannuation)

Most income that is received by Australians is **earned**, in the sense that it represents a reward to individuals for their direct or 'physical' contribution to the production process. For example, wages or salaries represent the return for providing labour to the business sector. Some income is **unearned** in the sense that it represents a reward for providing resources other than labour. In other words, it represents a reward for the indirect contribution to the production of goods and services. For example, **dividends** represent the return for providing capital (or equity), **interest** is the return for providing debt (or loans) and **rent** is the return for providing property. Taken together, earned and unearned income are referred to as **factor income**, which is the total return to factors of production for the contribution to production.

Figure 10.2 highlights the relationship between households and businesses in terms of flows of factor income.

Figure 10.2



Another source of income is **transfer income.** This is any income that is transferred from one group to another, without providing any good, services or assets in return to the payer. The most common form of transfer income occurs via the tax and transfer system in Australia, but it also includes other transfers, such as the money received in child support payments and superannuation receipts. With respect to government transfers, the government collects taxes from economic agents and then transfers this money to other groups via welfare payments, the most common being government pensions and allowances, such as the aged pension and JobSeeker allowance paid to those looking for work. Transfer incomes form an important part of government efforts to reduce inequality. This will be examined in greater detail in Section 10.11 - Budgetary policy initiatives in Australia as part of consideration of economic responses to address inequality and poverty.

Income can also be classified according to the extent to which it is manipulated by governments. This also provides a more accurate picture of the degree of command that incomes have over economic resources. For example, an annual wage of $70,000 does not mean that a person can purchase $70,000 worth of goods and services. There will be taxes that must be paid and there may be other benefits that are received, in addition to the $70,000 wage, such as family tax benefits or benefits in kind (e.g. subsidised health care). The means by which the government uses budgetary policy to manipulate the distribution of income will be examined later in this chapter.

Private or market income

This is the income that is received in the market place primarily as a result of individuals making a contribution to the production process, such as supplying their labour (including entrepreneurship) to the business sector. In this respect, it is very similar to 'factor income,' (but it also includes private transfers like child support payments and scholarship income) and is mainly received in the form of wages, salaries, interest, dividends and royalties.

Gross income

This is private or **market income plus direct cash benefits** received from governments, such as pensions, family tax benefits and job search allowance (unemployment benefits). This type of income provides a better indicator of the ability of households to purchase goods and services.

Disposable income

This is **gross income less the direct taxes** levied by governments (personal income tax) and provides an even better indicator of the ability of households to purchase goods and services.

Social wage income

This is disposable income plus indirect government benefits provided in the form of goods and services such as public housing, education, health and welfare. This type of income is also referred to as '**disposable income plus social transfers in kind.**' Once more, it provides a superior indicator of the ability of households to purchase 'and access' goods and services.

Final income

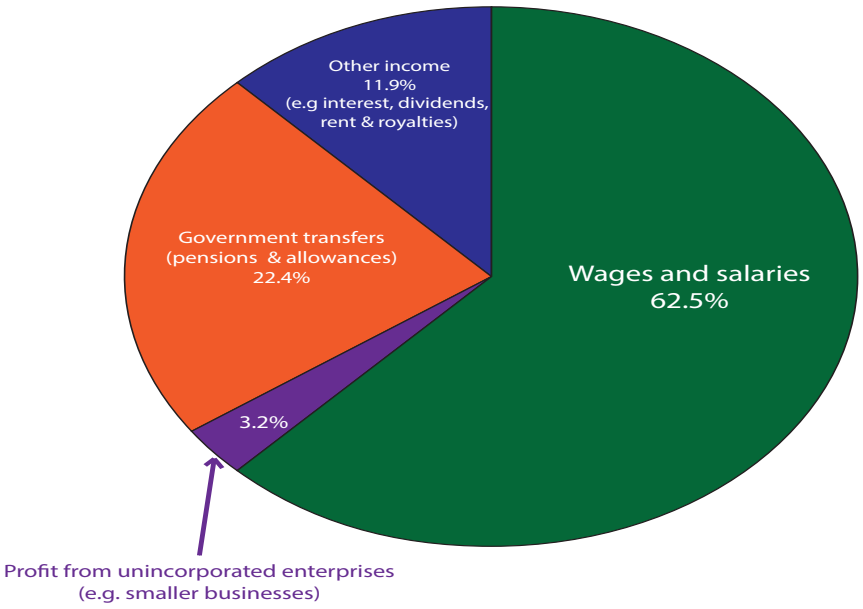
This is the most extensive type of income and includes **social wage income less production (or indirect) taxes.** It represents the best measure of the overall command that income has over economic resources.

Equivalised household income

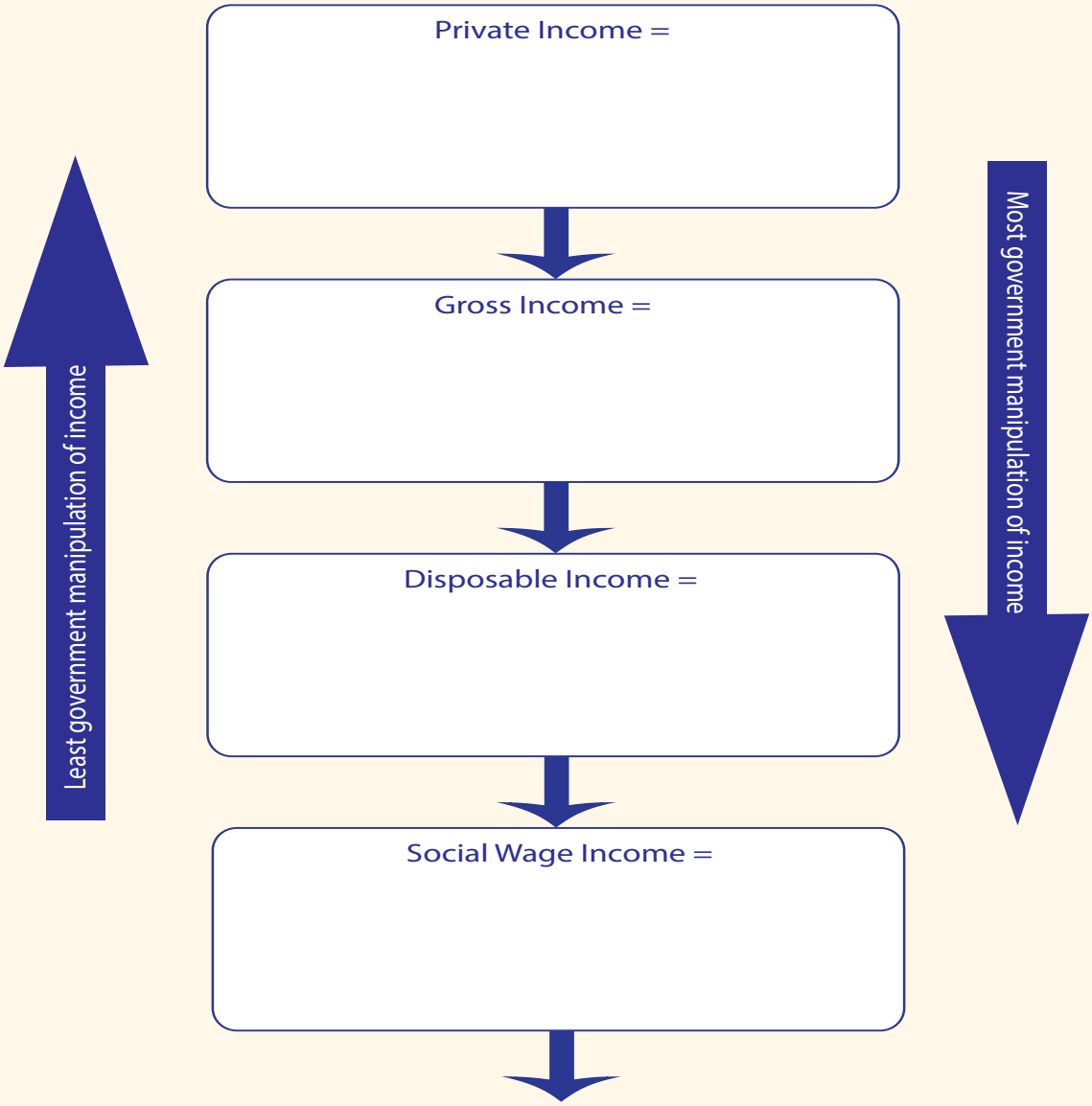
Given that most incomes are earned by individuals and then shared within households, the ABS has derived a specific measure of income that seeks to provide a better gauge of people's economic wellbeing. The measure for equivalised household income uses **disposable income and adjusts it to take into account the size and composition of households**. This provides a better comparison of 'incomes' and economic living standards by taking into account the number of people relying on the income(s) earned. To illustrate, a single person household earning $200,000 would be considered to be a relatively high-income earning household and its EDHI would be $200,000. However, a household earning $200,000 with two parents and eight children to support would be experiencing relatively lower economic living standards. Accordingly, the equivalised disposable household income (EDHI) for this household would be significantly less. The latest ABS data indicated that a household that consisted of a couple plus one child would need $1,800 week in disposable income to have the same EDHI as a lone person household with a disposable income of $1,000.

Income earned that cannot be classified as either factor income or transfer income includes gifts and other **windfall gains**, such as Tattslotto winnings. The pie chart in Figure 10.3 highlights the main sources of household income.

Figure 10.3 Main sources of household income



Application Exercise 10a income classifications



Tasks:

1. **Complete the above diagram to summarise the income classifications above and illustrate the relationships between them– from 'Private income' (least manipulated by government) to 'Final income' (most manipulated by government).**
2. **Explain why 'final income' represents the best measure of the overall command that income has over goods and services. In your explanation, refer to features of 'final income' and contrast it with other classifications of income.**

Nominal versus real income

The difference between **nominal income** and **real income** is similar to the distinction between nominal and real GDP that was covered in Chapter 6. Nominal income is the value of income that is received by an entity in actual dollar terms, whereas real income is the value of income received after taking into account the effects of **inflation** (a period of rising prices of goods and services).

To illustrate, if a person's income increases by 3%, from $100,000 in 2023 to $103,000 in 2024, then this represents an increase in their nominal income. However, if inflation over the relevant year was 3%, then 'in real terms' the **purchasing power** of their income has remained unchanged: the purchasing power of $103,000 in 2024 is the same as the purchasing power of $100,000 in 2023. In other words, if we assume that all of this money was spent on goods and services in both years (ignoring taxes), then the $103,000 could only buy the same basket of goods and services as was purchased in 2023. This means that the additional $3,000 in income received over the period has resulted in no additional benefits to the income earner. The extra $3,000 simply compensates for the effects of inflation.

During times of inflation, the growth in real income will be below the growth in nominal income unless income earners receive an equivalent percentage increase in nominal income. Given that income earners are concerned about preserving

(or increasing) the purchasing power of their income over time, they make concerted efforts to protect their real income. In the case of wage and salary income earners (which makes up approximately 60% of all income earners), this will often involve them approaching their employers to seek a pay rise that is at least equivalent to the inflation rate such that their real wage (or salary) is not eroded. From 2012, the growth in nominal wages in Australia trended down steadily, until it reached below 1.5% in 2020. There were some stages over that period when nominal wages growth failed to keep pace with inflation, resulting in lower real wages during those times. Since 2020, however, nominal wage has picked up. But despite average wage growth of 2.6% over the 12 months to June 2022, real wages decidedly fell, since average prices rose by 6.1% over the same period. Of course, the reverse is true when an economy experiences **deflation**, where prices of goods and services are falling over time. In this case, real incomes will be above nominal incomes unless income earners receive an equivalent percentage reduction in nominal income.

Application Exercise 10b

Classify the type of income earned in each of the following scenarios.

Scenario	Factor income	Transfer income	Other income
Adam Meway, a retired racing car driver, has just received his government pension cheque.			
Barb E. Cue bought some shares in an outdoors company three years ago for $39 and sold them today for $76.			
Carrie Oakey, a musician, receives $87,000 profit from operating her small tutoring business.			
Eve Ning won $1320 when she picked the quadrella at the Moonee Valley trots last Saturday night.			
Robin Banks noticed that the balance in her bank account had gone up by $42 last month because of interest.			
Justin Credible, a young and bright uni student, received his Youth Allowance deposited in his bank yesterday.			
Jay Walker is a retired policeman and receives $1,000 per week in superannuation payments.			
Moe De Lawn, a gardener, is divorced from his wife and he looks after their five children. His ex-wife is wealthy and pays him $5000 per week in child support.			
Rick Kleiner is a partial owner of Harvey Norman through holding shares and receives a total dividend of $720.			
Helen Back is a cigar importer and just received a payment from Nick O'Teen for $400 worth of cigars.			

Application Exercise 10c

Priyanka has not been employed for several years but managed to have $250,000 in savings at the end of 2022. At the start of 2023 she invested the money in a bank account earning 5% interest. Over the course of 2023, her $250,000 investment grew by $12,500 and by the end of 2023 the total amount in her bank account was $262,500. She was very happy with the outcome. Her close friend, Charlotte, is an IT specialist who has been in the workforce for three years. She has just been told that her normal annual wage increase of 5% will be reduced to 3% over the course of 2023. This means that her annual wage of $100,000 will now only increase to $103,000 when she expected it to increase to $105,000. Charlotte is unhappy and is thinking about quitting her job to work elsewhere.

Questions

1. **Explain whether Priyanka is earning an income. If so, identify the type of income being earned.**
2. **Explain whether Priyanka should be happy with the additional $12,500.**
3. **Explain why your answer in Question 2 might be different if you were advised that the rate of inflation over 2023 was 5%. (Hint: Would Priyanka be able to buy more goods and services with the money in her bank account at the end of 2023 when compared to the start of 2022?)**
4. **Explain why Priyanka should be unhappy if the inflation rate over 2023 was 10%. In your answer, refer to nominal and real income.**
5. **Discuss why Charlotte is unhappy with a reduction in the size of her annual wage increase.**
6. **Explain why your answer in Question 5 might be different if Charlotte anticipated that the inflation rate over the course of 2023 would have fallen to 3%.**

Wealth and its measurement

Wealth is related to income but is a distinct concept. For our purposes, household wealth can be defined as the total monetary value of **assets** (such as property and cash) which can be used to purchase goods and services in the future. A more useful concept to consider is **'net wealth'**, which is the total value of assets minus the total value of liabilities (e.g. debt owed to other economic agents).

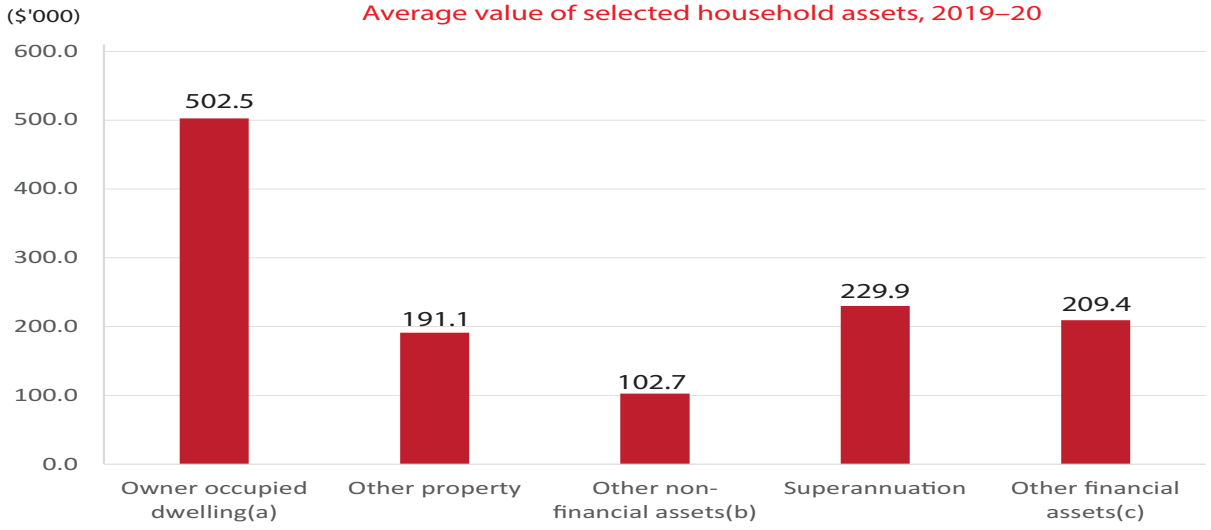
In Australia, wealth is measured in terms of 'household wealth' or **'net worth'** and in the Survey on Income and Housing it is defined as the value of all the assets owned by a household less the value of all its liabilities (which are mostly loans taken out by the household members). The assets and liabilities the ABS uses to calculate household net worth are outlined in Table 10.1 below.

Table 10.1 Main forms of household assets and liabilities, Australia, 2019-20 (ABS)

Household Assets	Household Liabilities
The value of non-financial assets like houses or flats, their contents, land and vehicles	The value of any mortgages
The value of an incorporated or unincorporated business owned by the household	The value of investment loans
The value of financial assets like bank accounts, shares, superannuation accounts	The value of credit card debt
The value of any money the household has loaned to others	The value borrowing from other households
	The value of any personal or study loans (e.g. HELP student loans)

In Australia, the main source of household wealth is owner occupied dwellings – in simple terms, the houses, units and apartments we own and also live in. These make up 40% of all assets held by households. The second largest source of household wealth is superannuation, which makes up 18% of household assets. The average value of assets per household in Australia is shown in Chart 10.1 below. Data on the distribution of wealth across Australia is considered later in this chapter.

Chart 10.1
Average value of selected household assets, 2019–20



As you can see, the average value of owner-occupied housing was just over half a million dollars per household, and superannuation funds were worth on average just under $230,000 per household. The 'other property' includes for rent and holiday homes. Just under one in four households owned property other than the dwelling in which they lived.

As noted earlier, net worth takes into account liabilities to provide a more accurate picture of what households are 'worth' financially. Total average liabilities for households was $203,800 in 2019-20 and three in four (75%) of households had debt in 2019-20. In Australia in 2019-20, the average household net worth (the value of assets minus liabilities) was $1.042 million. In simple terms, on average, Australian households were 'worth' over $1 million in net terms.

The relationship between income and wealth

Australia's market capitalist economy is underpinned by the behaviour and motivations of people who generally seek to maximise wealth. For many, it is the desire to accumulate wealth that provides the incentives for innovation and creativity which are the crucial ingredients for economic growth. In this respect, our economic system is **wealth creating.**

Wealth is created by income, and wealth can also be used to create further income. As income grows over time, it can permit households to **save** some of their income in a bank, or in some other form. Of course, the ability to save, and therefore accumulate wealth, will depend on the size of the income relative to the amount spent. Those on very low incomes will have limited opportunity to save because all (or most) of their income is spent on goods and services for survival. In contrast, those on high incomes will commonly spend only a portion of their income, enabling the rest to be saved.

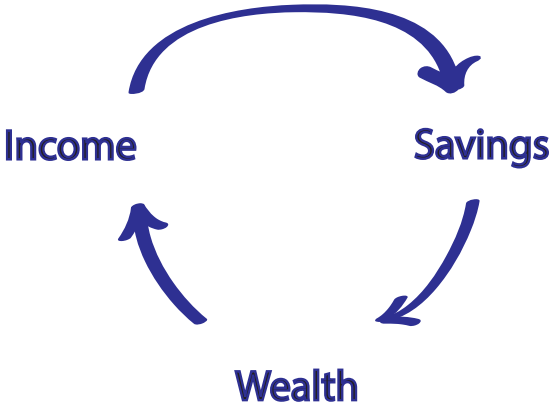
Study tip

Wealth is a stock variable - it can only be measured at a point in time. Income, on the other hand, is a flow variable - it can only be measured over a period of time. A flow of income can lead to an increase of wealth if some of the income is saved rather than spent.

Similarly, the ability of individuals to save will also be determined by the way they manage their income over time. For example, those on higher incomes who do not have good savings plans will tend not to accumulate financial wealth and instead spend all of their income on current consumption. In contrast, those on low incomes with a determination to save will tend to forego current consumption in order to save and accumulate wealth. Typically, savers are people who are prepared to endure a relatively lower standard of living today in order to enjoy a relatively higher standard of living in the future.

The relationship between income and wealth can be somewhat circular. This is depicted in Figure 10.4. Any income that is saved can then be invested in assets such as property, shares or government bonds. This creates additional income for the owners of the assets, in the form of rent, interest or dividends. However, these investments will, on average, grow in size over time as the value of these assets rise. This will provide a further boost to income if any of the assets are sold for more than the purchase price, leading to a profit on the sale of assets, called a **capital gain**. In this respect, savings from income help to accumulate wealth, which then boosts incomes and enables more savings to occur and so on. This cycle is sometimes summed up by the phrase 'you need money to make money' and demonstrates the power of savings to generate further income and wealth.

Figure 10.4:
Cycle of income, savings and wealth



Review questions 10.1

1. Define household income.
2. Explain what is meant by 'income in kind'.
3. Distinguish earned income from unearned income, giving an example of each.
4. Distinguish factor income from transfer income, giving an example of each.
5. Distinguish private/market income from gross income.
6. Distinguish disposable income from social wage income.
7. Explain why the ABS modifies household disposable income to arrive at 'equivalised' household disposable income.
8. Distinguish nominal income from real income.
9. Define wealth and explain how the ABS measures household wealth in Australia.
10. Identify the two largest sources of wealth in Australia.
11. Explain the difference between income and wealth.
12. Explain what is meant by the phrase ''you need money to make money'.

10.2 Measures of income and wealth distribution

As noted earlier, the ABS periodically collects information about the income (and wealth) of Australian households an effort to develop an understanding of the changes that have taken place to their economic well-being. Given that the 'spending power' of households is not determined by factor or transfer incomes alone, the ABS compiles additional summary income statistics. These income types are described below:

Gross household income is the total income from all sources, but before income taxes have been deducted.

Household disposable income is gross household income minus personal income taxes. It represents a better measure of each household's ability to purchase goods and services than gross household income.

Equivalised disposable household income (EDHI) involves the ABS adjusting the household disposable income to take account of the number of people in the household that are relying on the income(s) earned.

When measuring changes in the distribution of the income and the spending power of households over time, the ABS mostly relies on the measure of equivalised household disposable income.

From its surveys, the ABS determines household incomes and places them in a ranking from lowest earning households to highest earning households. They are then placed into five groups of equal size. These are called 'quintiles'(because there are five of them, and each represents a fifth, or 20%, of the households). These quintiles are then ranked from the **lowest** income earning quintile to the **highest**. Table 10.2 below shows the 'mean' (i.e. average) weekly income earned by each quintile in 2019-20 (the most recent data available).

Table 10.2: Average weekly equivalised household disposable income by quintile, Australia, 2019-20

Quintile	Mean income per week ($)
Lowest quintile	415
Second quintile	710
Third quintile	966
Fourth quintile	1,294
Highest quintile	2,234

It highlights that the lowest 20% of income earning households earned an average $415 per week (after tax and accounting for household size). This compares to $2,234 per week for the highest 20% of income earning households. This clearly demonstrates the degree of inequality that exists in the distribution of household incomes in Australia.

Another way of presenting the same information is to convert the weekly income amounts into a share of the total of all the mean household incomes. This is done in Table 10.3. This further highlights the degree of inequality. The lowest 20% of income earners (i.e. the lowest quintile) earned only 7.4% of total income, while the highest earned 39.8%.

Table 10.3: Share of total equivalised equivalised household disposable income by quintile, Australia, 2019-20

Quintile	Mean income per week ($)	% of total
Lowest quintile	415	7.4
Second quintile	710	12.6
Third quintile	966	17.2
Fourth quintile	1,294	23.0
Highest quintile	2,234	39.8
Total	**5,619**	**100.0**

Wealth distribution can also be presented in the same way. Using the same survey, the ABS determines household net worth, and places household in a ranking from the households with the lowest net worth to the highest net worth. They are then divided into five groups of equal size (i.e. an equal number of households in each group.) Again, these are called quintiles, and the quintiles are ranked from the lowest household net worth to the highest. Table 10.4 shows the average net worth of each quintile in 2019-20.

Table 10.4: : Household net worth ($'000) and share of total household net worth by quintile, Australia, 2019-20		
Quintile	Household net worth ($'000)	% of total
Lowest quintile	35.1	0.7
Second quintile	252.6	4.8
Third quintile	588.4	11.3
Fourth quintile	1,067.2	20.5
Highest quintile	3,267.1	62.8
Total		**100.0**

Also included in Table 10.4 is the share of the total of Australia's household net worth received by each quintile. The data shows that the households with the lowest net worth in Australia share just 0.7% of all of Australia's net worth. While the highest quintile holds 62.8% of all of Australia's wealth. The data in Tables 10.3 and 10.4 make it clear that the distribution of wealth in Australia is much more unequal compared to the distribution of income. Trends in the distribution of income and wealth in Australia over time will be considered later in this chapter.

The Lorenz curve

The **Lorenz curve** plots the percentage share of total income earned on the vertical axis against each quintile on the x-axis. It highlights the share of total income earned by each 20% of the household population (i.e. by each quintile). Hypothetically, it is possible for each quintile to earn exactly the same share of total income. This would mean that the distribution of income in the economy is absolutely equal with each quintile earning 20% of total income as shown in Table 10.5

Table 10.5: Hypothetical income shares			
Quintile	% of total	Cumulative (%)	Point
Lowest quintile	**20**	20%	A
Second quintile	**20**	40%	B
Third quintile	**20**	60%	C
Fourth quintile	**20**	80%	D
Highest quintile	**20**	100%	E
Total	100		

To construct a Lorenz curve from this hypothetical data, firstly we need to create the points to be plotted on the graph. To do this, we add each quintile's share to the share of the quintiles below it. For example, to work out where to plot the share of income for the Second quintile, we add together the share of income of the Lowest and the Second quintile. It becomes clear that, between them, these two quintiles receive 40% of the total income. So, to plot the share of income for the second quintile, we would use the **cumulative** figure for the lowest 40% (the two lowest quintiles.) To construct the Lorenz curve, we simply plot each of the points A to E on the diagram as shown in Figure 10.5A. Then the points are connected to form the Lorenz curve in Figure 10.5B.

Figure 10.5A Lorenz curve

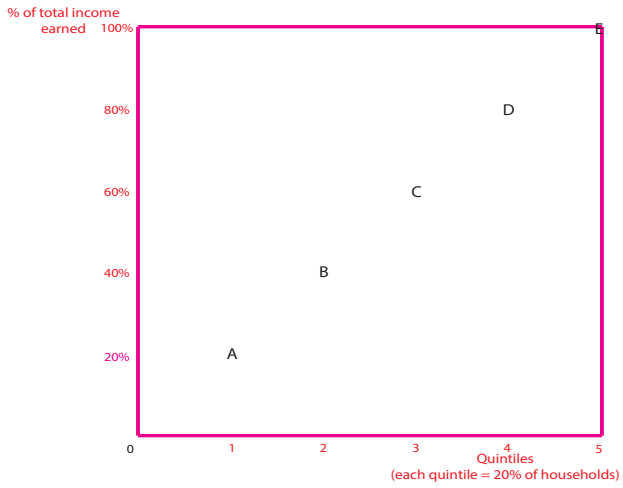
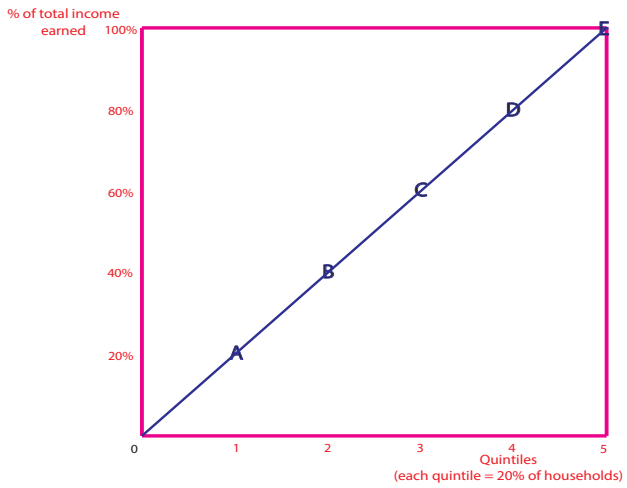


Figure 10.5B Lorenz curve (line of absolute equality)



In this hypothetical example, the Lorenz curve effectively becomes 'the line of absolute equality' (sometimes referred to as the 45 degree line) where each quintile earns exactly the same share of total income.

In reality, there is no country in the world that has a Lorenz curve that coincides with the line of absolute equality. Despite this, the 45 degree line is used as a useful 'reference point' from which we can visually determine the degree of inequality that actually exists in an economy. The Lorenz curve for every economy will lie below the 45 degree line, highlighting that lower income groups will receive a smaller share of total income than higher income groups.

Constructing a Lorenz curve for the distribution of income in the Australian economy based on the latest income statistics (2019-20) requires us to plot each of the points A-E from Table 10.6. When plotting actual statistics it is necessary to add each of the income shares as done in the table, just as we did in the previous hypothetical example.

Table 10.6: Equivalised Income shares Australia, 2019-20

Quintile	% of total	Cumulative (%)	Point
Lowest quintile	7.4	7.4	A
Second quintile	12.6	20.0	B
Third quintile	17.2	37.2	C
Fourth quintile	23.0	60.2	D
Highest quintile	39.8	100	E

Figures 10.5C and 10.5D demonstrate the construction of the Lorenz curve for the Australian economy in 2019-20. At this stage it should be highlighted that as the Lorenz curve moves away from the 45-degree line, inequality worsens and inequality is reduced as the Lorenz curve approaches the 45-degree line.

Figure 10.5C Construction of Lorenz curve Australia 2019-20

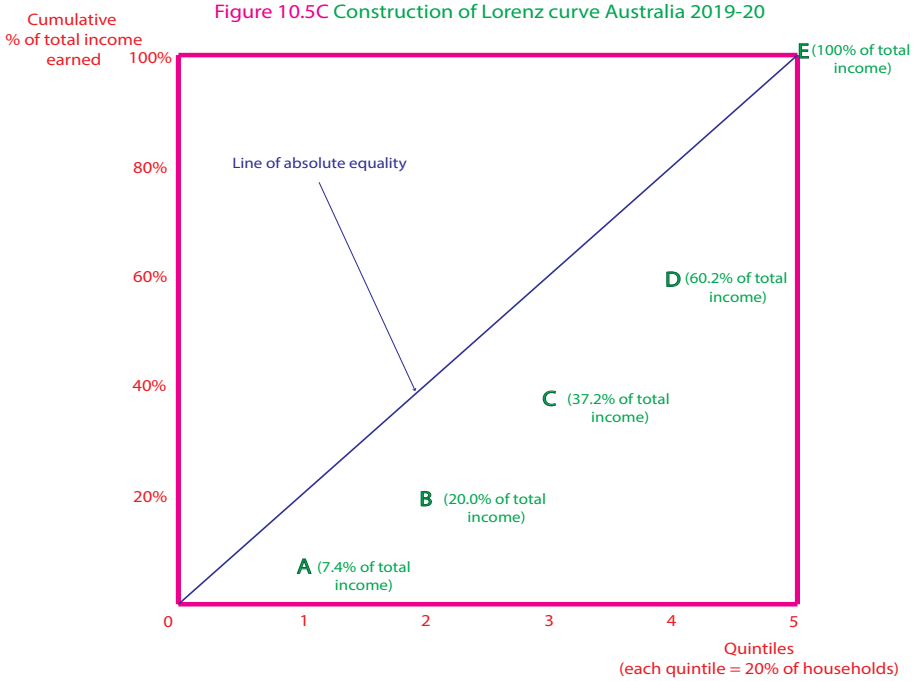
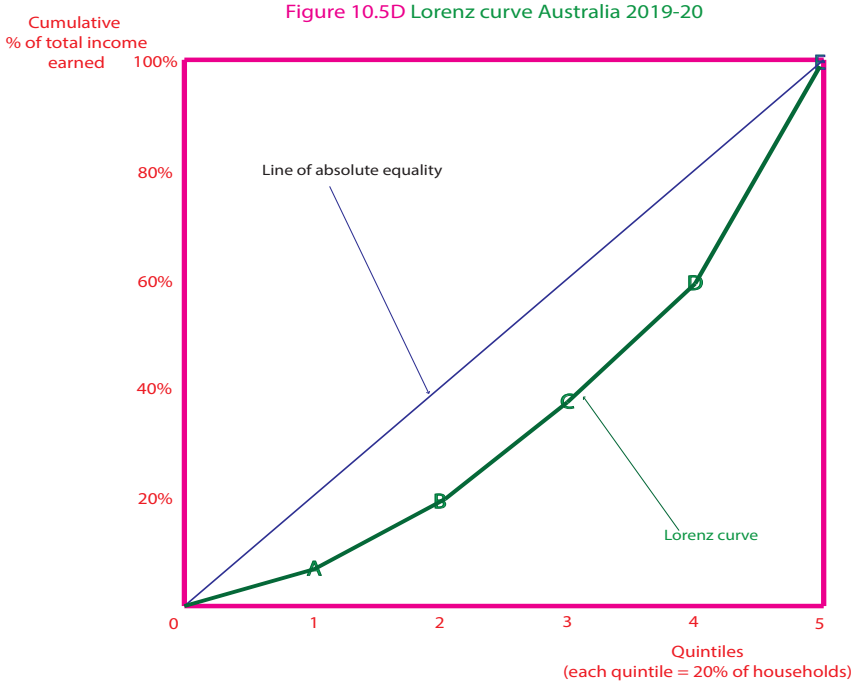


Figure 10.5D Lorenz curve Australia 2019-20



Application Exercise 10d Constructing a Lorenz curve

The table below contains the share of household net worth (wealth) held by each quintile of households in Australia in 2019-20.

Quintile	Household net worth (wealth) ($'000) 2019-20	% of total (ii)	Cumulative % of total (iii)
Lowest	35.1	0.7	
Second	252.6	4.8	
Third	588.4	11.3	
Fourth	1,067.2	20.5	
Highest	3,267.1	62.8	
Total	5210.4	100	

Tasks:

1. **Complete the table above by inserting percentages in column (iii). Use Table 10.6 earlier to guide your calculations.**
2. **Use the figures in the completed table to construct a Lorenz curve for household net worth in 2019-20. (Ensure that you use approximately half a page and draw the curve roughly to scale.)**
3. **Explain what would happen to the Lorenz curve if the distribution of household net worth (wealth) changed such that the top quintile owned a lower proportion of total wealth and the lowest quintile owned a higher proportion of total wealth.**
4. **Write three sentences comparing and contrasting the distribution of EDHI (as shown in Figure 10.5D earlier) and the distribution of wealth in Australia (as shown by your own Lorenz curve constructed in this task.) Explain how the Lorenz curve can indicate which is distributed more and less equally.**

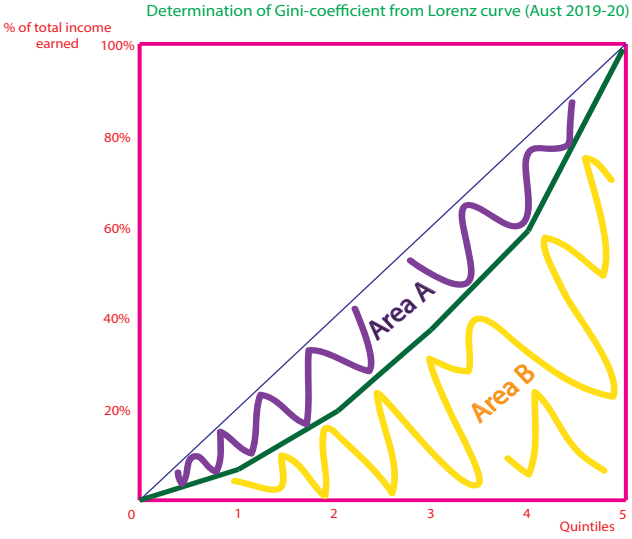
The Gini coefficient

The Gini coefficient is a number between zero and one providing an indication of the degree of inequality in the distribution of income. It can be calculated by referring to the Lorenz curve, where the area between the actual Lorenz curve and the line of absolute equality (Area A) is divided by the total area under the line of absolute equality (Area A + B). This is highlighted in Figure 10.6 using the actual Lorenz curve for Australia (2019-20). As Area A is smaller than Area B, it must result in a Gini coefficient somewhat less than 0.5. If Area A were the same size as Area B, it would yield a Gini coefficient of 0.5.

It should be apparent that as inequality worsens in an economy, the Lorenz curve moves further away from the 45-degree line and the size of the Area A increases relative to Area B. This means that the Gini coefficient moves away from zero and approaches 1.

The ABS computed the Gini coefficient for income distribution (EDHI) to be 0.324 for 2019-20, which compares to a 0.329 in 2009-10, indicating that the distribution of income became slightly more equal (i.e. inequality in income distribution fell) over this time. On the other hand, the ABS computed the Gini coefficient for wealth distribution (net worth) to be 0.611 for 2019-20, which compared to 0.602 in 2009-10, indicating that the distribution of wealth became more unequal (i.e. inequality in wealth distribution rose) over this time.

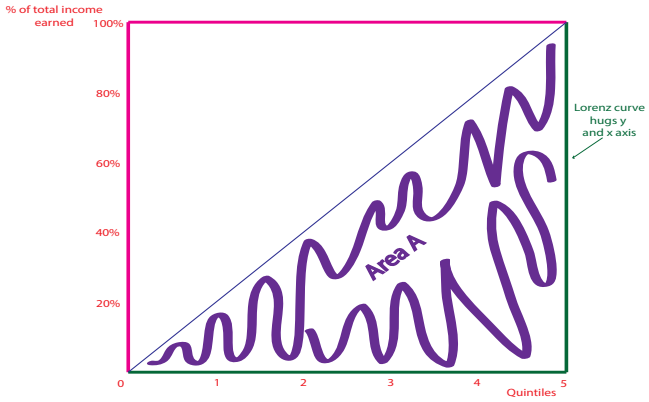
Figure 10.6
Determination of Gini-coefficient from Lorenz curve (Aust 2019-20)



$$\text{Gini coefficient} = \frac{\text{Area A}}{\text{Area A + B}} = 0.324$$

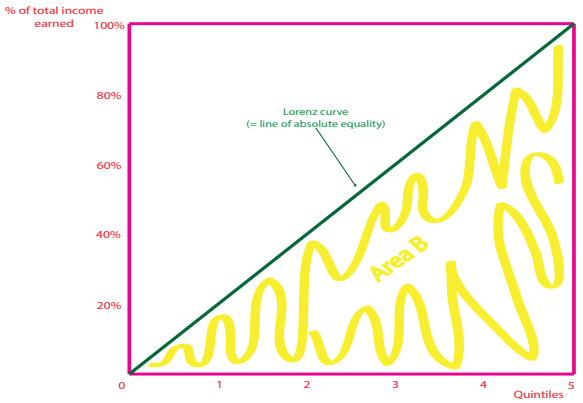
At the extreme, total inequality (one person earning all income or wealth) would mean that Area A covers the entire space and Area B disappears. This means that the Gini coefficient = A/A = 1. This is depicted in Figure 10.7A where the purple area is Area A. As inequality lessens (or equality improves), the Lorenz curve moves closer to the 45-degree line and the size of Area A decreases relative to Area B. This means that the ratio A/(A+B) moves closer to zero. At the other extreme, total equality (everyone earning exactly the same income or holding exactly the same amount of wealth) would mean that Area B covers the entire space, and Area A disappears. This means that the GC = 0/0+B = 0. This is depicted in Figure 10.7B where the yellow area is Area B.

Figure 10.7A Total inequality - Lorenz curve and Gini Coefficient



$$\text{Gini coefficient} = \frac{\text{Area A}}{\text{Area A + B}} = \frac{\text{Area A}}{\text{Area A}} = 1$$

Figure 10.7B Total equality - Lorenz curve and Gini Coefficient



$$\text{Gini coefficient} = \frac{\text{Area A}}{\text{Area A + B}} = \frac{0}{\text{Area B}} = 0$$

Review questions 10.2

1. Distinguish gross household income from household disposable income.
2. Explain why the ABS modifies household disposable income to arrive at 'equivalised' disposable household income (EDHI).
3. Explain what is meant by 'the lowest quintile earns a mean income of $415 per week'.
4. Define the Lorenz curve and briefly describe how it is constructed.
5. Explain when the Lorenz curve will be the same as the line of absolute equality.
6. Explain why all countries around the world will have Lorenz curves that lie below the 45-degree line.
7. Referring to Figure 10.5D, explain what would happen to the Lorenz curve for Australia if inequality in income distribution worsened.
8. Referring to Figure 10.6, describe how the Gini coefficient is calculated.
9. Discuss why the Gini coefficient approaches 1 when inequality worsens.
10. Compare the data in Table 10.3 and Table 10.4 and describe what it shows regarding the relative inequality in income vs wealth distribution in Australia.
11. Discuss the implications of a Gini coefficient of zero, outlining the likelihood of this occurring in Australia.

Application Exercise 10e Inequality through the pandemic

The following is an edited extract of the ABS media release from 28th April 2022, 'Stable household income and wealth inequality leading into the pandemic.'

Household disposable income and wealth inequality was relatively stable leading into the pandemic, according to 2019-20 data released today by the ABS from its 2019-20 Survey of Income and Housing. The Gini coefficient for income distribution fell slightly from 0.328 in 2017-18 to 0.324 in 2019-20. While the Gini coefficient for wealth distribution also fell - from 0.621 to 0.611.

'Inflation adjusted average household weekly disposable income increased by $30 in 2019-20, statistically unchanged in real terms from 2017-18,' said Dr Benjamin Mitra-Kahn, ABS Head of Household income and Expenditure Data. 'Low-income households' average weekly disposable income increased by $4 a week and high-income households' increased by $27 a week over the two-year period. Middle income households had the largest increase of $37 per week.

Over the last decade, inflation adjusted average income increased by $90. For low-income households, this increase was only $33, while high income households saw an increase of $155 a week in their income.

Average household wealth remained relatively unchanged in 2019-20 compared to two years earlier, but household liabilities (what household owed to others) had increased by 7.5%. The average household owed $203,8000 in 2019-20. In 2019-20, mean (average) household net worth was $1.042 million, compared to $878,000 ten years earlier in 2009-10. However, median household net worth did not grow as rapidly, rising from $519,000 in 2009-10 to $579,000 in 2019-20.

Adapted from information at : https://www.abs.gov.au/media-centre/media-releases/stable-household-income-and-wealth-inequality-leading-pandemic

Questions:

1. **Explain why the media release title refers to 'stable' household income and wealth leading into 2020. Use data to support your response.**
2. **Outline which households experienced the greatest growth in income over the period, and which households experienced the smallest growth in income.**
3. **Predict the likely impact of the coronavirus pandemic on average household weekly disposable income and wealth. In your response consider both the effects of the virus on the community, and the government response to the virus (containment measures, income supplements, etc.)**
4. **Identify the changes in the Gini coefficients for income and wealth between 2017-18 and 2019-20 and explain what this indicates about inequality in income and wealth distribution**
5. **Identify the movement in average household wealth between 2017-18 and 2019-20.**
6. **Explain why there is a difference between the 'average' household wealth and median household wealth, and predict what this is likely to indicate about wealth distribution.**
7. **Explain what is meant by average household liabilities and describe the change in the value of this measure over the period considered.**

10.3 The measurement of poverty

Poverty is closely linked to inequality given that it is the lowest income earning (or wealth holding) households that are likely to be living in poverty. **Absolute poverty** refers to people living in a situation where they have insufficient income to purchase the basic goods and services such as food, shelter and clothing. In contrast, **relative poverty** occurs when a household has a low level of income compared to a generally agreed standard.

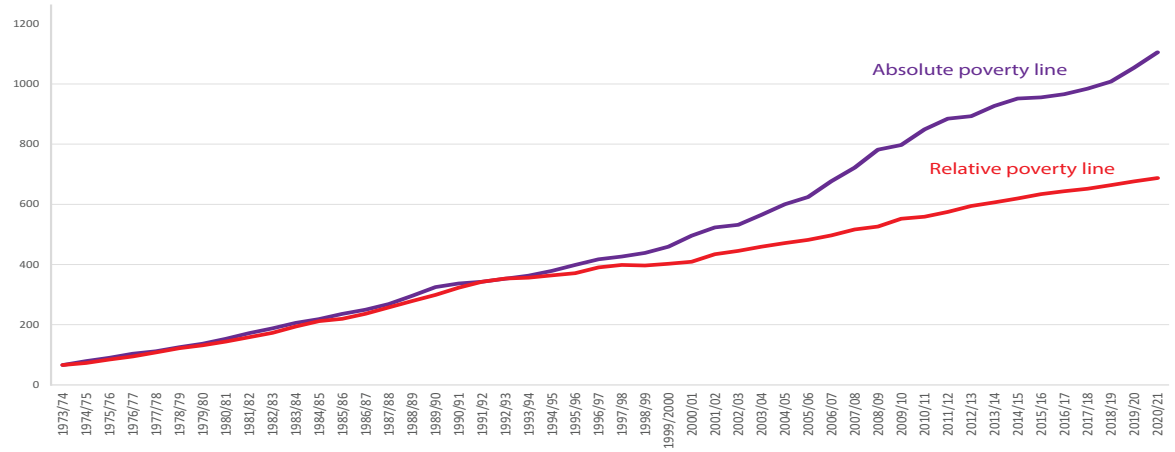
In relation to relative poverty, the standard reference point or 'benchmark' in Australia is the '**Henderson poverty line' (HPL)**. It is a fixed proportion of the average household disposable income and will rise over time as the nation's income and wealth increases. Loosely speaking, when a household's income falls below the 'Henderson poverty line', it means that they are earning a level of income that is insufficient to provide the members of that household with a 'dignified standard of living'. The important point to remember is that it is a 'relative measure', and the Henderson poverty line can also be referred to as the relative poverty line.

Chart 10.2 records the movement in the relative and absolute poverty line income levels since records commenced in 1974. In 1974, a household comprising two adults and two children needed to have an income above $66.00 per week in order to avoid absolute and relative poverty. As Australia's average incomes increased over time, this 'relative poverty line' level of income (i.e. the HPL) increased to $1148.15 by March 2022. It rose in line with the growth in average household disposable income, because, as explained, the relative poverty line is a fixed proportion of the average household disposable income and rises as average incomes rise.

However, the growth in the absolute poverty line was much slower, such that the average household needed to earn above $687.50 per week to avoid absolute poverty in 2021. In other words, a household earning $66.00 in 1974 would be in the same position as a household earning $687.50 in 2021 such that both would be struggling to 'make ends meet'. The household earning $1148.15 per week in March 2022 would be in 'relatively' the same position, but only when compared to the average income earning household. But when compared to the equivalent household in 1974, it is 67% better off! This highlights the important distinction between relative and absolute poverty, with the latter being of greatest concern to governments. Nevertheless, what the measure of relative poverty (the HPL) tells us is how many households are living on an income that does not allow them to access a certain standard of living relative to the ever-improving material standard of living across Australia.

.

Chart 10.2
Absolute vs relative poverty
[Family of 2 adults/2 children]



Review questions 10.3

1. Distinguish absolute poverty from relative poverty.
2. Describe the trend in the Henderson poverty line (relative poverty line) since 1974.
3. The Henderson poverty line level of income in 2022 was $1148.15 for a household of two parents and two children. Discuss whether a household earning this level of income in 2022 was 'better off' than a household earning the Henderson poverty line level of income of $66.00 in 1974.
4. The absolute poverty line level of income in 2021 was $687.50. Discuss whether a household earning this level of income in 2021 was 'better off' than a household earning $66.00 in 1974.

10.4 Income and wealth distribution in Australia over time

The ABS has been producing estimates of the Gini coefficient of income distribution since 1994-95. While it cautions against comparing estimates from 2007-08 onwards with earlier estimates (due to improvements made in measuring income since 2007-08), it does provide an indicator of the longer-term trend. The data was collected annually from 1994-95 to 2000-2001, and then every two years since then. Chart 10.3 below shows that, while the Gini coefficient has 'bounced around' and changes from year to year may not be noticeable, there has been a steady upward trend in the value of the Gini coefficient for Australian income distribution over the last 25 years.

Chart 10.3:
Gini coefficient for EDHI, Australia, 1994-5 to 2019-20

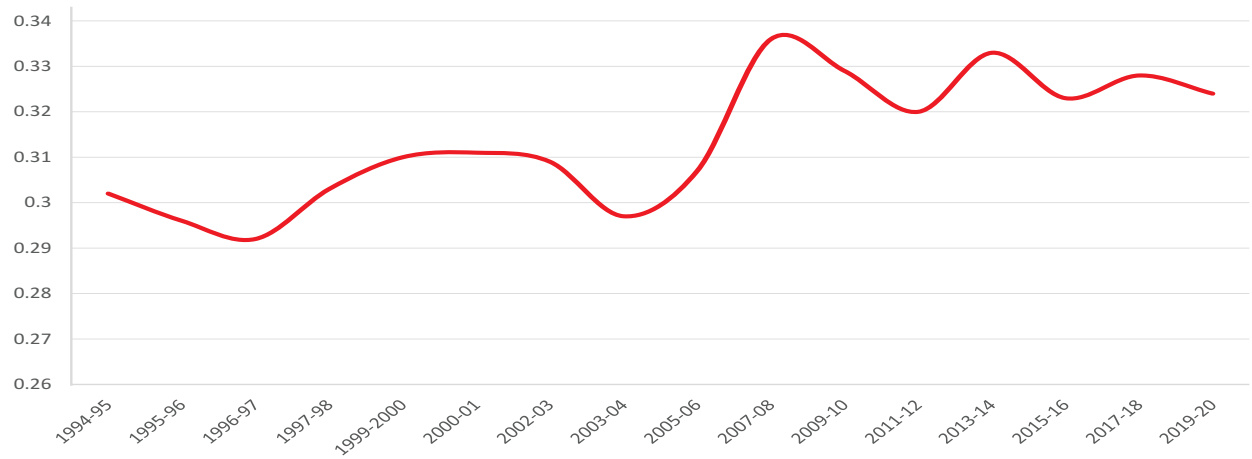
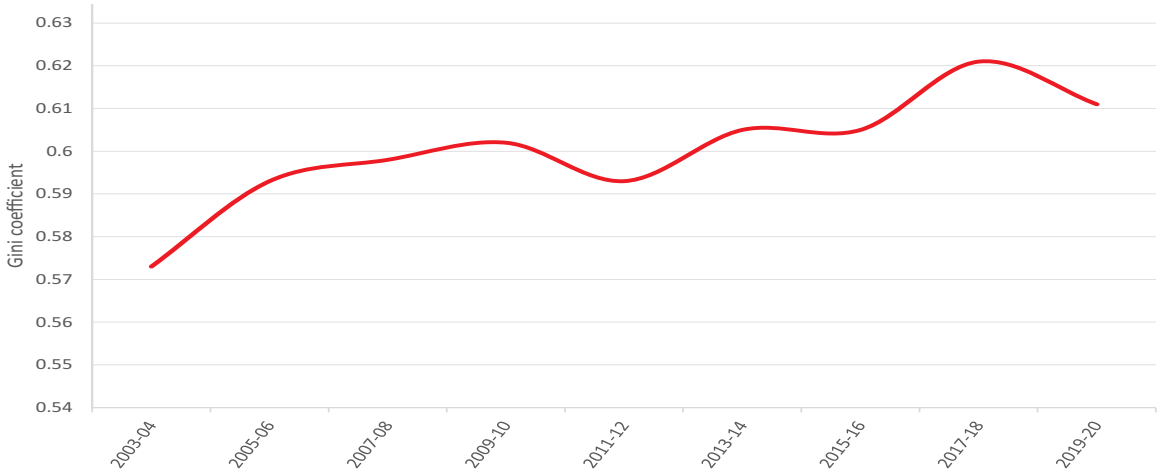


Chart 10.4 shows the Gini coefficients for Household Wealth distribution and highlights that there has been a noticeable upward trend in the value of the Gini coefficient for Australian wealth distribution over the last 16 years (as shown by the dotted trend line), although the most recent figure indicated inequality in wealth distribution fell slightly between 2017-18 and 2019-20.

Chart 10.4:
Gini coefficient for wealth, Australia, 1994-5 to 2019-20



As noted earlier in this chapter, there is a relationship between income and wealth. Therefore it can be presumed that in a society where wealth is quite unequally distributed, as it is in Australia, this will influence the distribution of income over time. Further consideration of the factors influencing income and wealth distribution are covered later in this chapter.

Application Exercise 10f Covid and worsening wealth inequality

A report by the Australian Council of Social Services (ACOSS) and the University of New South Wales (UNSW) was published in July 2022 titled 'The wealth inequality pandemic: Covid and wealth inequality'. Its key findings included:

- Households in Australia are on average the fourth-richest in the world
- However, many are financially vulnerable due to high debt or low financial buffers
- House wealth grew as much over the past 3 years as in the previous 15 years, with two-thirds of the increase in wealth coming from house price inflation.
- Residential property values rose on average by 22% in the year to December 2021 – which was the highest annual increase in 35 years.
- Rising house prices moderated overall wealth inequality, as housing ownership is distributed more evenly across the population than other kinds of wealth.
- However, younger people and those with low incomes are shut out of home ownership even more as a result of rapid house price inflation.
- In 2021, the richest 1% of the population held 14% of all wealth (compared with 15% in 2018, and 12% in 2003.) This is 11 times the average wealth of the middle 30% of households.

Questions/Tasks:

1. **Describe the main reason why Australians' wealth on average rose during the pandemic.**
2. **Explain why rising housing prices moderated overall wealth inequality during the pandemic.**
3. **Describe the trend in the proportion of wealth held by the top 1% of households since 2003. Explain the likely implications of this trend for income distribution.**
4. **Use the Internet to investigate the percentage of Australians who own property (either outright or with a mortgage) and make a list of arguments in favour of and against the benefits of rising housing prices.**

Extension

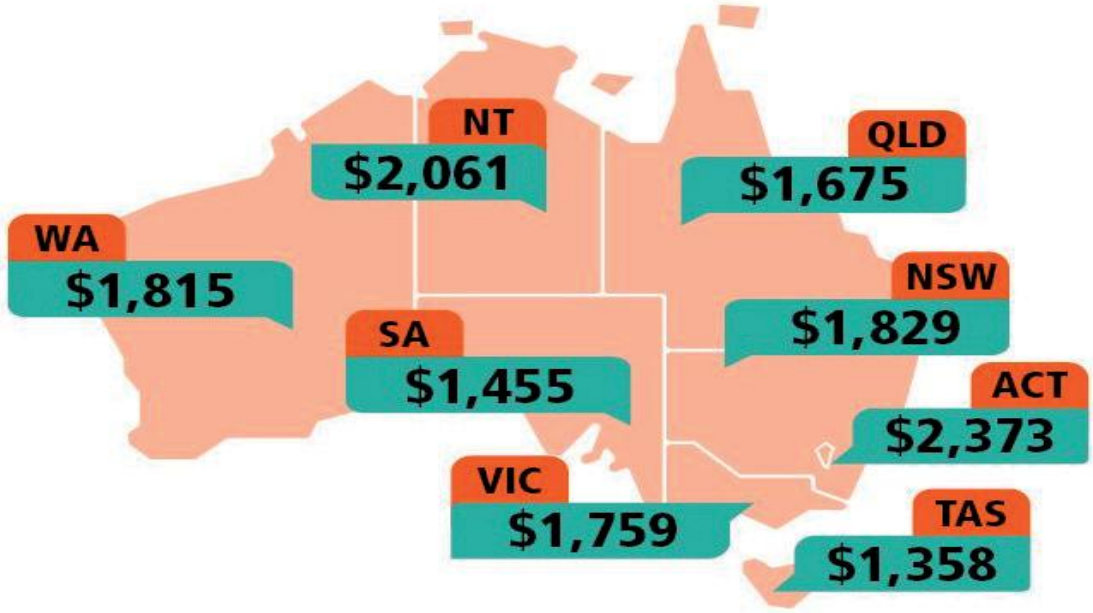
1. **Visit the Report on the ACOSS website: https://povertyandinequality.acoss.org.au/wp-content/uploads/2022/07/The-wealth-inequality-pandemic_COVID-and-wealth-inequality_screen.pdf**
2. **Scroll to the Executive Summary section. Collect evidence to support the claim that 'young people and those on low incomes' have been 'shut out' of secure, affordable housing.**
3. **Scroll to the infographic on p. 15 of the report which provides 'A profile of wealth in 2021'. Collect data on the number households in the lower 60%, middle 30% and upper 10% of households by wealth, and their average household wealth before and after COVID. Summarise this data into a table.**
4. **Use the information you have collected, and any other findings in the report, to respond to the assertion that the rising average wealth of Australians is an unequivocally good outcome of the pandemic.**

Regional and demographic differences

Regional differences

Figure 10.8 below makes it clear that median incomes vary widely across Australia, based on data taken from the latest Census (2021). National median personal income was $805 a week. The causes of income inequality are explained in more detail in Section 10.8 below, but it is clear from the data that where you live can have an influence on your earning capacity. The Australian Capital Territory (ACT) has the highest median personal income at $1,203 per week, while Tasmania has the lowest median personal income at $701. Nationally, there are over 9.6 million people earning below the national median personal income, of whom 1.8 million earn negative or no income.

Figure 10.8: Median Household income by state, 2021



The census also breaks down income groups within each state and territory. For example, of the almost 5 million people aged 15 years or over in Victoria:

- Around half a million received negative or no income
- More than 1.2 million received between $1 and $500 a week in income
- 263,000 received income of more than $3,000 a week.

Australia is a highly urbanized country, and the majority of Australians live in major cities compared to rural and remote areas of the country. The designation of 'remoteness' relies on making judgements about the relative access to services available in the location. 'Major cities' includes the capital cities, such as Melbourne and its nearby large city Geelong.

As of June 2021 the geographic distribution of Australians was as shown in Table 10.7 below:

Table 10.7: Geographic distribution of population Australia, 2021

Location	Percentage of population
Major cities	72
Inner regional areas (e.g. Castlemaine in Victoria)	18
Outer regional areas (e.g. Portland in Victoria)	8
Remote areas (e.g. Alice Springs, or Broken Hill in western NSW)	1.1
Very remote areas (e.g. the remote mining town of Paraburdoo in W.A., or the towns of Tennant Creek and Katherine in the NT)	0.8

Source: Australian Institute of Health and Welfare, https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health

Living in the remoter parts of Australia means lower average incomes along with less access to the services that improve quality of life, such as healthcare and infrastructure. Labour force data shows that people living in the urbanized areas of

Australia (Major cities) are more likely to be employed than people living outside those areas. People living in rural and remote areas generally have lower incomes, but also pay higher prices for goods and services. In 2017-18, Australians living outside capital cities received on average 19% less household income per week compared to those living in capital cities and also had 30% less household net worth on average.

First Nations people

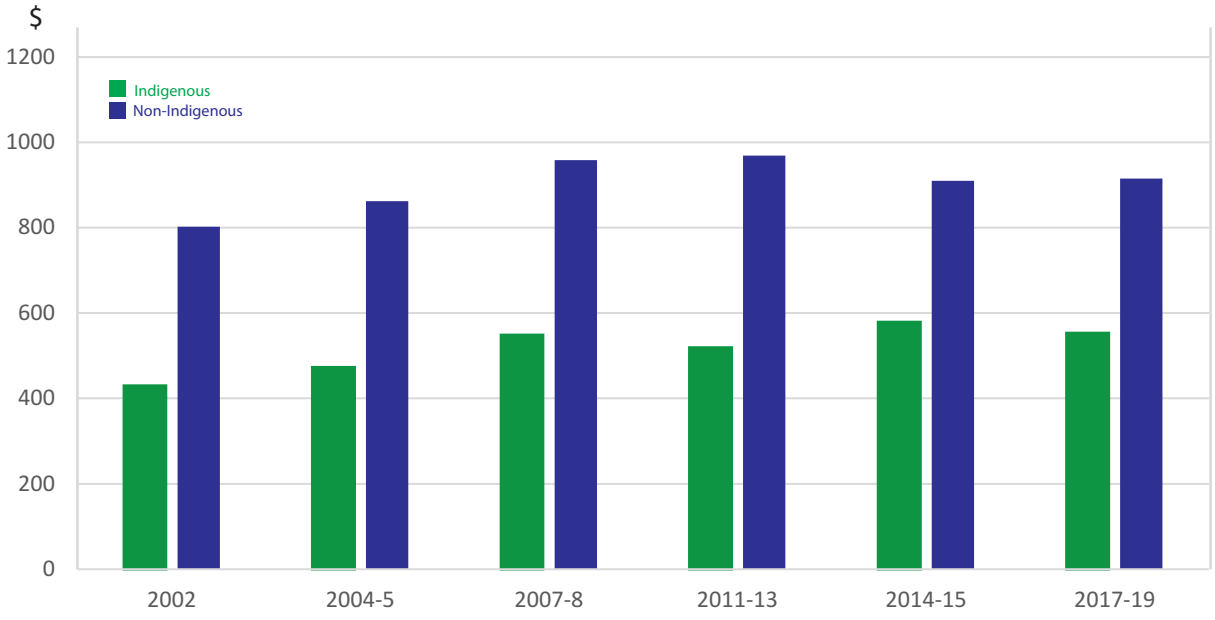
According to the Australian Institute of Health and Welfare (AIHW), Aboriginal and Torres Strait Island people consistently earn lower average incomes from employment and private sources than non-Indigenous Australians and are more likely to be living on low incomes. It is worth noting that the data presented below use gross median adjusted household income comparisons, as disposable income data for Indigenous Australians is not available.

In 2018-19, the median gross adjusted household income per week among Indigenous Australians aged 18 and over was $533. This was 4.5% lower than in 2014-15 ($579) and 29% higher than in 2002 ($430) in real terms (after adjusting for inflation). Among First Nations households, 1 in 4 reported incomes of $1000 or more per week in 2018-19. This is, however only half the comparable proportion of non-Indigenous Australians aged 18 or over who reported income of more than $1000 a week. In the same year, the median income per week for non-Indigenous Australians aged 18 and over was roughly two-thirds higher than the corresponding household income of Indigenous Australians in the same year.

If we return to the concept of 'quintiles' of population and the income distribution across those quintiles, it is worth noting that 40 per cent of Indigenous Australians reported an income in the bottom 20% of the income distribution (the lowest quintile) for all Australians aged 18 and over in 2018-19. This figure was worse than in 2014-15, when 36% of Indigenous Australians received incomes that placed them in that quintile. This is roughly 2.5 times the proportion of non-Indigenous Australians (16%) who reported being in the bottom quintile of income distribution. On a more positive note, eight per cent of Indigenous Australians reported incomes in the top 20% of the income distribution (the highest quintile) in 2018-19, which was an increase compared to previous years. The proportion of non-Indigenous Australians in this category was around 3 times higher.

The stark difference in income share received by Indigenous compared to non-Indigenous Australians is clear in Chart 10.5 below.

Chart 10.5:
Equivalised weekly household income (adjusted for inflation), persons aged 18 by Indigenous status, 2002-19



Source: https://www.aihw.gov.au/reports/australias-welfare/indigenous-income-and-finance

The intersection of **regional income** inequalities and **demographic income** inequalities is most evident when considering the data on the main source of income for Indigenous Australians of working age.

For Indigenous Australians aged 18 and over, the highest median gross personal income per week was reported in Major cities. Income consistently decreased as people lived more remotely, with the lowest income reported in Very remote areas. While a similar pattern is also true for non-Indigenous Australians, the figures are much lower on average for Indigenous Australians, as is evident in the table below.

Table 10.8: Median gross personal income per week by location, Indigenous and non-Indigenous Australians, 2017-18

Location	Indigenous Australians	Non-Indigenous Australians
	$	$
Major cities	600	915
Very remote areas	350	712

The difference in incomes between Indigenous and non-Indigenous Australians was highest in Remote areas, where median gross income per week for non-Indigenous Australians was $813 which is 85% higher than that for Indigenous Australians ($440).

As will become evident later in this chapter, the income received from government allowances or pensions is much lower than the income received from employment, on average. The proportion of Indigenous Australians of working age whose main source of income was a government pension or allowance was highest in *Outer regional areas* (57%) and lowest in *Major cities* (36%). This was also true for non-Indigenous Australians, but to a lesser extent, as the proportion was also highest in *Outer regional areas (20%)*, and lower in both *Remote areas* (10%) and *Major cities* (11%).

Poverty and its incidence in Australia

As noted previously, the relative poverty line, as measured by the Henderson Poverty Line (HPL) in March 2022 was a disposable income of $1148.15 per week for a household of two adults and two children. This means that a household of that size living on less than that level of income would be considered to be living below the poverty line.

In April 2022, the Bankwest Curtin Economics Centre (based at Curtin University in Western Australia) published a report into poverty in Australia. The measure of 'living in poverty' used in the research was half the median equivalent household income – which their modelling revealed to be around $451.50 per person per week after housing costs. They found that severe or extreme poverty occurs when a person's weekly income is less than $270 after housing costs. Table 10.9 below provides a snapshot of its findings.

10.9 Selected indicators of poverty, Australia, 2022

Indicator	Data
Number of people living in poverty in Australia	2.96 million
Percentage of population living in poverty in Australia	11.8%
Percentage of households living in poverty	15%
Number of children living in poverty in Australia	750,000
Proportion of single parents living in poverty	25%
Proportion of single parents living in extreme poverty	10%
Single jobless people living below the poverty line	66%
Number of renters living in poverty	1.5 million
Income left to live on after housing costs for poorest families	$150 a week

Source: https://bcec.edu.au/publications/behind-the-line-poverty-and-disadvantage-in-australia-2022/

A notable observation of the research was that between 2020 and 2021, the number of people living in poverty actually fell by around 350,000 people, largely due to the COVID-19 supplements paid to government allowance recipients, and the COVID-19 JobKeeper wage subsidies paid by the government via employers.

They found the groups most at risk of living in 'deep and persistent poverty and disadvantage' are single person households, those who are living in social (government-provided or subsidised) housing and those with a disability. There is also a gender gap in poverty, with young women and women approaching retirement being more likely to live in poverty. Single women aged 55 and over who live in private rental accommodation are particularly exposed to financial hardship, with two thirds living in poverty.

As will become evident in later in this chapter during consideration of the causes of poverty and income inequality, joblessness is one of the key drivers of poverty, particularly among single people and people supporting large families.

The report also examined the percentage of people living in poverty by state and territory, and changes in the incidence of poverty between 2010 and 2020, which is summarised in Table 10.10 below.

Table 10.10 Share of people living in poverty by state and territory, 2010- 2020

	2010	2012	2014	2016	2019	2020
NSW	13.1	14.9	13.6	12.2	13.7	11.4
Victoria	12.2	11.2	11.0	11.0	12.8	10.9
Queensland	13.1	13.4	11.8	12.5	13.7	13.5
South Australia	14.8	13.2	12.8	13.4	14.6	12.8
Western Australia	11.7	10.0	8.7	11.4	12.5	12.8
Tasmania	17.0	16.1	14.7	13.7	16.0	11.8
Northern Territory	3.6	5.1	4.7	9.2	15.3	13.4
ACT	3.9	5.0	4.9	6.1	5.3	5.4

Source: https://bcec.edu.au/publications/behind-the-line-poverty-and-disadvantage-in-australia-2022/ Based on the Household, Income and Labour Dynamics in Australia Survey

Application Exercise 10g Data analysis and use of excel

Using the data in Table 10.10 above complete the following tasks.

1. Using Excel (or another spreadsheet program), create a bar chart showing the share of people living in poverty by state and territory between 2010 and 2020. When creating the chart, choose the 'Clustered column' option. This will allow you to represented the data for each year clustered with the state or territory. You can adjust the colours of each bar (column) to make your chart more readable.
2. Analyse the data by completing the following:
   a. Describe the pattern of data overall – which state/territory had the highest and lowest levels of poverty over the period
   b. Consider and explain some possible reasons for the differences in poverty rates between states and territories
   c. Describe the changes in the pattern of data over the period shown – in which years did poverty rates rise and fall? By how much?
   d. Consider and explain some reasons for the changes in poverty rates over time with a focus on the most recent data.

(**Hint**: when describing changes in percentage rates, use the concepts of 'percentage point changes'. For example, when describing the increase in rates of poverty in NSW from 13.1% in 2010 to 14.9% in 2012, an accurate description would be to say that 'rates of poverty rose by 1.8 percentage points' over the period rather than 1.8%.)

Review questions 10.4

1. Describe the trend in the Gini coefficient for income distribution in Australia over the last 25 years.
2. Describe the trend in the Gini coefficient for wealth distribution in Australia since 2003-04.
3. Explain what the trends in the Gini coefficients described in questions 1 and 2 indicate about the distribution of income and wealth in Australia over the periods considered.
4. Explain why the trend in the Gini coefficient for wealth may have contributed to the trend in the Gini coefficient for income over the period 2003-04 to 2019-20.
5. Using the data in Figure 10.8, calculate what the average household weekly income received by residents of Tasmania is as a percentage of the average income earned by those who live in the ACT.
6. Discuss with your classmates possible reasons for the disparity in incomes received across the different states and territories of Australia, based on what you have learned in this section.
7. Describe how a region's 'remoteness' is determined. Make a link between this classification and non-material living standards.
8. Describe the distribution of Australia's population in terms of its remoteness and describe the relationship between geographic location and income distribution.
9. Using three statistics provided, compare the income received on average by First Nations (Indigenous) peoples in Australia and non-Indigenous Australians.

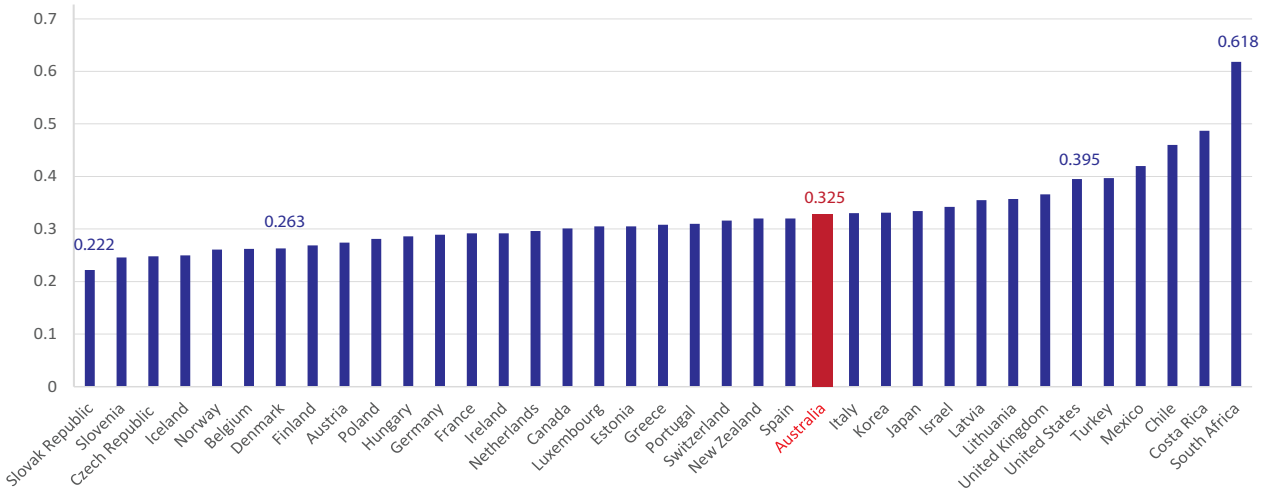
10. Describe how the incomes and source of incomes of First Nations / Indigenous peoples in Australia can be seen to highlight the intersection of regional income inequalities and demographic income inequalities. Use data to support your response.
11. Describe how the major sources of incomes of people in certain geographic locations may contribute to disparities in income distribution.
12. Identify three key statistics that indicate the incidence of poverty in Australia in recent years, and explain how they demonstrate that people are 'living in poverty'.
13. Describe what happened to the number of people living in poverty during the COVID-19 pandemic in 2020, and provide one reasons for this change.

10.5 Recent trends in global income and wealth distribution and poverty

International income and wealth distribution

The Organisation for **Economic Cooperation and Development (OECD)** is an international body made up of 38 of the world's largest economies that are 'committed to democracy and the market economy'. It is often used as shorthand for countries that are 'like' each other in terms of level of development and types of governance, and therefore provides a useful comparison on many measures. The latest OECD data is captured in Chart 10.6 below, which highlights that Australia currently sits around the middle of all member countries in terms of income distribution.

Chart 10.6: Gini coefficient, income distribution, OECD countries (2019-20)



However, these countries represent the more affluent countries in the world, and a consideration of global income distribution also needs to consider how income and wealth are distributed more broadly across the globe.

Increasingly, it is very difficult for those of us living in affluent, western industrialised countries like Australia not to notice the enormous disparity between the material comfort, and relative luxury, of our lives compared to the lives of the majority of people around the globe. Global media and the Internet connect people across the whole planet. This means images of people living in extreme poverty and conflict regions are unavoidable. While those of us living comfortable lives in the richer nations may be used to the idea of the rich and the poor, few of us really understand the extent of this problem, or the extreme inequality that exists around the world.

Inequality is a broad and complex issue. In addition to extreme inequities in the distribution of income, inequality can also be considered as inequality of opportunity, inequality of access to resources and inequality of wealth distribution. Concerns over inequality extend into the upper levels of global economic policymaking and power. In 2015, the World Economic Forum (WEF) named 'deepening income inequality' as its number one economic trend to watch. It noted that when inequality rises, more people, especially young people, are excluded from the mainstream, feel disenfranchised and become easy fodder for conflict. This can result in weak social cohesion, the undermining of democracy and crippling hopes for sustainable economic growth.

Application Exercise 10h:

If the world were a village of 100 people …

There is no shortage of news available about the levels of inequality, poverty, disease, and injustice in the world, and indeed how many people around the world lack for the basic necessities of a decent life.

And yet, for many of us, hearing those statistics makes very little sense, or impact. It is almost incomprehensible for those of us with enough to eat each day, and a roof over our heads. These statistics also do not necessarily give us a picture of our own good fortune to live in a country as affluent, and socially and politically stable as Australia.

Sometimes, if we can bring our consideration down to a more local level, these numbers can make more sense for us. And so, for some years now, around the Internet and in newspaper articles, people have attempted to personalise the characteristics of the peoples of the world and the global disparities in access to resources. They've done this by condensing down the global statistics to a smaller scale and representing them as if our world of almost 8 billion inhabitants were a village of just 100 people. This representation of the world as a village also promotes a sense that we are all part of one big, global community.

Questions/tasks

1. **There are a number of statements below that ask you to consider … 'If the world were a village of 100 people, how many people would …'**
2. **After closely reading the statements, reflect on how you think the resources and features might be distributed around a village of 100, if that village were a reflection of our current world. Complete Column A – "My Guess".**
3. **Compare your answers with a classmate, or you could collate your answers as a class and decide on which answer you think is likely to be the most accurate.**
4. **A larger table with more statements, along with an answer sheet are available on the Teachers' Resources section of www.ecogroundup.com.au. The sheet includes suggested answers to this exercise, gleaned from a number of sources. However, you could also simply spend some time on the internet, finding out some answers yourself.**
5. **Answer the following questions about the data::**
   a. **In this village, how would spending on the military compare with spending on aid?**
   b. **What proportion of the village would be children?**
   c. **What proportion of villagers is illiterate? Explain how this might affect living standards and economic development in the village.**
   d. **What proportion of the villagers live without basic necessities, such as sanitation, water and enough food? What effect might this have on the economic development of the village?**
6. **Once you have checked your answers and compared them with a classmate, or your whole class, discuss your responses to the information presented.**
7. **Write a brief paragraph to explain what you believe might be the value of undertaking such an exercise.**

Once you've completed these tasks, try visiting: http://www.miniature-earth.com/. 'The miniature Earth' project provides a visual representation of some of these statistics.

If the world were a village of 100 people …	Column A My Guess	Column B The 'answer'
How many villagers would live without basic sanitation? (e.g. a decent toilet)		
How many villagers wouldn't have clean, safe drinking water?		
How many cars would there be in the village?		
How many villagers would be children?		
How many villagers would share over 50% of the income?		
How many villagers would share the remaining 50% of the income?		
How many villagers would own over 75% of all the wealth in the village?		
How many villagers would be unemployed or underemployed?		
How many villagers would have money in the bank, money in their wallet and		
spare change around the house?		
How many adults in the village would be able to read?		
How many villagers would have electricity?		
How many villagers would have mobile phones?		

How many villagers wouldn't have a reliable source of food and would be hungry some of the time?		
How many villagers would always have enough to eat?		
How many villagers would speak English as a first language?		
How many villagers would speak Chinese as a first language?		
How many villagers would have gone to university or college?		
How many adults in the village would have HIV/AIDS?		
How many villagers would consume 80% of the village's energy?		
How many villagers would consume the remaining 20% of energy?		

Globally comparable measures of income and wellbeing

Calculating levels of income across countries is a major challenge for researchers for many reasons. Firstly, different countries measure income and wealth in different ways – they use different statistical measures. Secondly, some countries do not have the resources to collect accurate statistics at all, or, as you will discover when you consider different measures of economic development, the existence of large informal sectors makes cross-country comparisons very difficult. Consequently, there is no one definitive way to measure global income distribution. There is no one definitive way to measure global inequality and what follows are just some of the most popular methods.

Income per capita

One way to measure global inequality is to compare the per capita income for each country, using **Gross National Income (GNI) per capita**, in **purchasing power parity (PPP)** terms. GNI is all the income earned and received by a country's citizens. It includes the income from production using resources owned by residents of the country, plus income earned abroad that flows back to the country. For very poor countries, GNI provides a better indicator of access to resources because poor countries rely on remittances from locals working abroad and foreign aid, which would not be included in a measure like **Gross Domestic Product (GDP).** GNI per capita is the total GNI divided by the population, and provides an indicator of average income received by each person living in country (if incomes were divided evenly among the population). As you can probably imagine, there is significant disparity between income levels in different countries across the globe.

Box 10.1: What is PPP?

Dollar amounts expressed in 'purchasing power parity' (PPP) terms means the amount has been adjusted according to the purchasing (buying) power of the country's currency over basic items. To illustrate, it would not be possible to buy enough to eat in Australia with AUD 2 (two dollars in Australian currency), but in a very poor country with lower costs of living and lower prices, AUD 2 worth of local currency could buy just enough food and other necessities to avoid extreme, absolute poverty. Using PPP makes it possible to compare amounts of income across countries with highly variable prices and exchange rates.

According to World Bank data, Singapore had the highest per capita GNI—$ 102,450 (PPP). Burundi (a landlocked country in East Africa that shares a border with Tanzania) had the lowest GNI per capita - $800 per person (PPP). Consequently, the average income of Singaporeans is almost 130 times that of citizens of Burundi.

Application Exercise 10i:

Table 1 below shows the per capita income for a collection of countries. Some of the countries are wealthier Western countries, while others are among the world's poorest countries. The list might contain names of countries you have not heard of before. Table 2 shows the levels of income per capita for World Bank income classifications.
Examine the data provided in both tables carefully, and use it to complete the tasks that follow.

Table 1: Gross national income per capita (ppp) in selected countries, 2021

Country	GNI per capita ($PPP)	Country	GNI per capita ($PPP)
Australia	55290	Lao PDR	8150
Argentina	23150	Mexico	19540
Bangladesh	6960	Nepal	4280
Benin	3750	Niger	1330
Bhutan	10440	Pakistan	5800
Bolivia	8800	Philippines	9450
Brazil	15550	Qatar	92080
Burkina Faso	2330	Russian Federation	32000
Cambodia	4430	Rwanda	2440
Cameroon	3990	Sierra Leone	1750
Chile	27410	South Africa	14140
China	19170	Sri Lanka	13790
Denmark	66720	Turkey	30020
Dominican Republic	19730	United Arab Emirates	66680
Haiti	3130	United Kingdom	49420
Indonesia	12560	United States	70480

Source: World development indicators, DataBank, World Bank, 2022, http://databank.worldbank.org/data/home.aspx

Table 2: World Bank income classification data, 2021

Income classification	GNI per capita ($PPP)
Low-income economy	<$1,085
Lower middle-income economy	$1,086-$4,255
Upper middle-income economy	$4,256-$13,205
High-income economy	>$13,206

Source: World Bank, https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2022-2023

Questions/tasks

a. Identify the continent where each of the countries listed in Table 1 is located.
b. Complete the following calculations:
   i. the average daily income of someone who lives in a country classified as a low-income economy (if that country's per capita income is the highest possible in that classification)
   ii. the average weekly income of someone who earns per capita income at the upper end of the scale, in a country classified as an upper middle-income country.
c. Classify each of the countries in Table 1 using the income classifications provided in Table 2. This can be done by creating a list or a new table.
d. Reflecting on your response to part c. did any country's classification surprise you? Were there countries that you would have classified differently based on your knowledge of them?
e. Analyse the income levels used to classify countries. Do the values used bear any resemblance to the dollar amounts we use in Australia to classify income levels? For example, would someone living on $13 206 in Australia be considered to have a 'high' income? In your answer you should also refer to the average per capita income in high-income countries.
f. Calculate the ratio of GNI per capita for the following combinations of countries. For each calculation, briefly explain what the ratio means and comment on the ratio. For example, consider country locations, type of country and its history. Here is an example:

Australia and Argentina $\quad \frac{\text{Australia's GNI pc}}{\text{Argentina's GNI pc}} \quad \frac{55\,290}{23\,150} = 2.4{:}1$

This means that the average Australian income per capita is 2.4 times that of the average income in Argentina. Interestingly, this is the case even though both countries are classified as high-income economies. However, Argentina is also located in a part of the world (South America) that overall has lower average incomes.

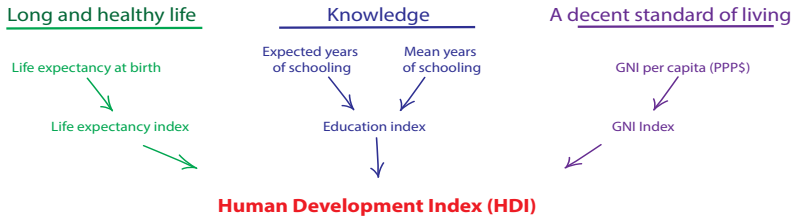
The combination of countries is:

i. Australia and Indonesia
ii. Denmark and Niger
iii. South Africa and Sierra Leone
iv. Brazil and Bolivia
v. China and Cambodia.

Human Development Index scores

As was noted earlier, per capita income is but one measure of how countries are performing economically. Many economists are also concerned with inequality in access to a basic standard of living and quality of life. The Human Development Index (HDI) is a composite statistic that provides a measure of the average life expectancy, education and per capita income for countries. This means that the higher a country's HDI score (and HDI ranking), the higher the level of human development in the country. For example, on the latest HDI, Australia was ranked fifth with an HDI score of 0.951 and the first ranked country was Sweden with a score of 0.962. This indicates that, taken in aggregate, Swedish citizens experience the highest levels of human development on the planet, as measured by life expectancy, income and years of education.

Figure 10.9:
Dimensions of the Human Development Index



Once the data is collected, the report writers compile a statistic for most countries in the world. For ease of comparison, the average value of achievements in the three dimensions are aggregated to create a composite figure, which is then put on a scale from 0 to 1, where the greater the number, the better the level of human development in that country. The countries are then ranked, and on this scale, 1.00 is the highest possible ranking and 0.00 the lowest possible level of human development.

One insight into how the HDI provides a different view of development is available when you compare country rankings on per capita GNI versus their world ranking for HDI. For example, Australia is ranked below Qatar on average GDP per capita, but scores way above Qatar on the HDI. Qatar is an oil-rich Middle East country with very high GDP per capita compared to the rest of world. The data for Norway indicates that it has a higher GDP per capita than Qatar and is also ranked much higher on the HDI than Qatar. The key difference between the countries is the average level of schooling and the access to healthcare of people who live in those countries and these are both reflected in the HDI but not in the calculations of GDP per capita.

Table 10.11 HDI ranking vs GNI per capita, 2021

Country	GNI per capita ($PPP)	HDI ranking	HDI value
Switzerland	66933	1	0.962
Australia	49238	5	0.951
Qatar	87134	42	0.855

Source: HDI, 2021 data.

The UNDP classifies countries into four levels of human development, based on their HDI score, and these are outlined in Table 10.12 below. The good news on the HDI is that over time the number of countries classified as having low human development has fallen, and quite a few countries have moved from this lowest ranking to having attained medium human development over time.

Table 10.12: HDI score classifications, 2021

Level of human development	HDI score
Very high human development	Above 0.80
High human development	Between 0.70 and 0.80
Medium human development	Between 0.55 and 0.70
Low human development	Below 0.55
Global extremes	
Country with highest HDI score: Switzerland	0.962
Country with lowest HDI score: South Sudan	0.385

Source: HDI, 2021 data.

Table 10.13 shows a selection of countries and their ranking on the HDI for 2021. As revealed earlier Australia ranks very highly (fifth) on the HDI rankings. The average world HDI is 0.732.

Table 10.13: Human Development Index value and ranking, selected countries, 2021

HDI Ranking		Country	HDI Value
Very high human development	1	Switzerland	0.962
	2	Norway	0.961
	5	***Australia***	***0.951***
	13	New Zealand	0.937
	42	Qatar	0.855
	66	Thailand	0.800
High human development	67	Albania	0.796
	77	Ukraine	0.773
	79	China	0.768
	87	Brazil	0.754
	109	South Africa	0.713
	114	Indonesia	0.705
		World average	0.732
Medium human development	116	Philippines	0.699
	132	India	0.633
	140	Vanuatu	0.607
	155	Solomon Islands	0.564
	156	Papua New Guinea	0.558
	159	Côte d'Ivoire	0.550
Low human development	161	Pakistan	0.544
	162	Togo	0.539
	170	Senegal	0.511
	175	Ethiopia	0.498
	180	Afghanistan	0.478
	191	South Sudan	0.385

Source: UNDP Human Development Report 2021

Global income and wealth distribution

If comparing incomes across countries is challenging, measuring inequality (income distribution) is even more so. Nevertheless, some researchers have taken on this challenge, and established some conclusions from valuable data sources.

The authors of the World Inequality Report 2022 (produced by the World Inequality Lab), noted in their report that, while global incomes have grown significantly on average in the last few decades, so has inequality. They suggest it is not the income distribution between countries, but rather the income distribution between income groups that should be the focus of our attention as income distribution within most countries and regions has become more unequal over time.

Charts 10.7 and 10.8 show the shares of global income and wealth received by different groups across the globe.

Chart 10.7: Share of total global income received (%)

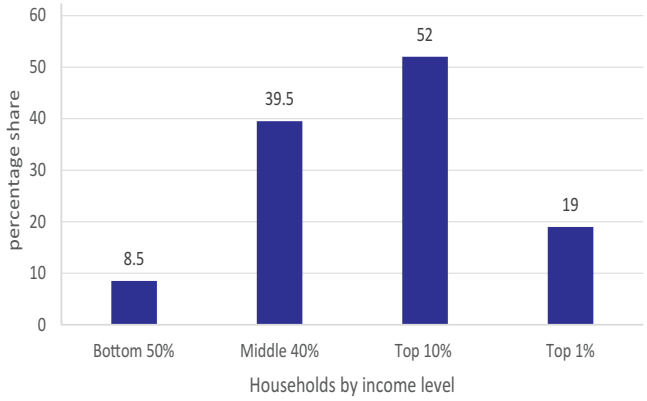
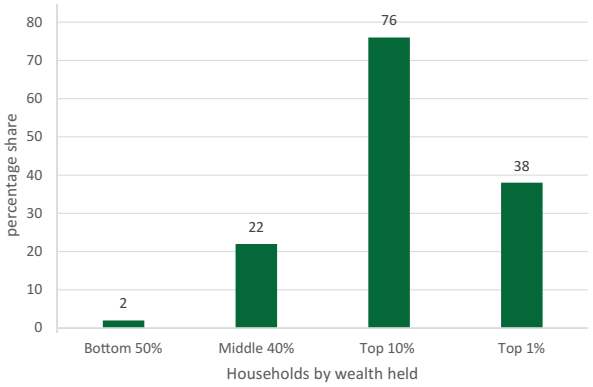


Chart 10.8: Share of total global wealth owned (%)



Charts 10.9 reveals that there are significant differences in wealth inequality in different regions of the world.

Chart 10.9: Share of wealth held by groups by region, 2021 (%)

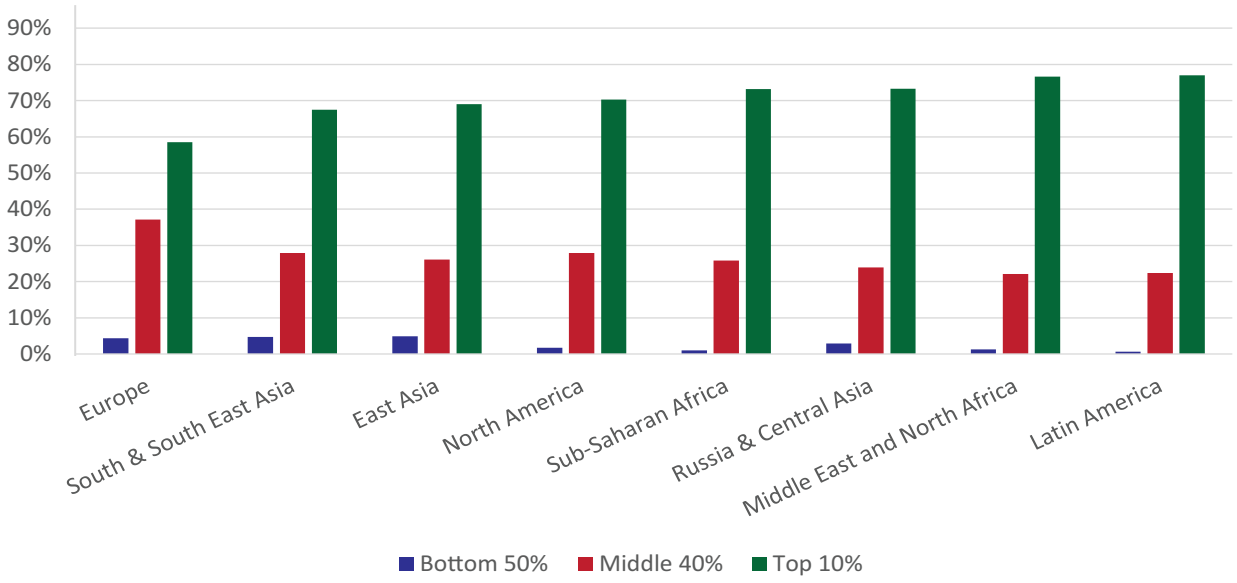


Chart 10.10 shows the relative shares of global income received by two groups – the bottom 50% of income earners (shown in red) and the top 10% of income earners (shown in green.)

Chart 10.10: Share of total world income (%), 1995 - 2020

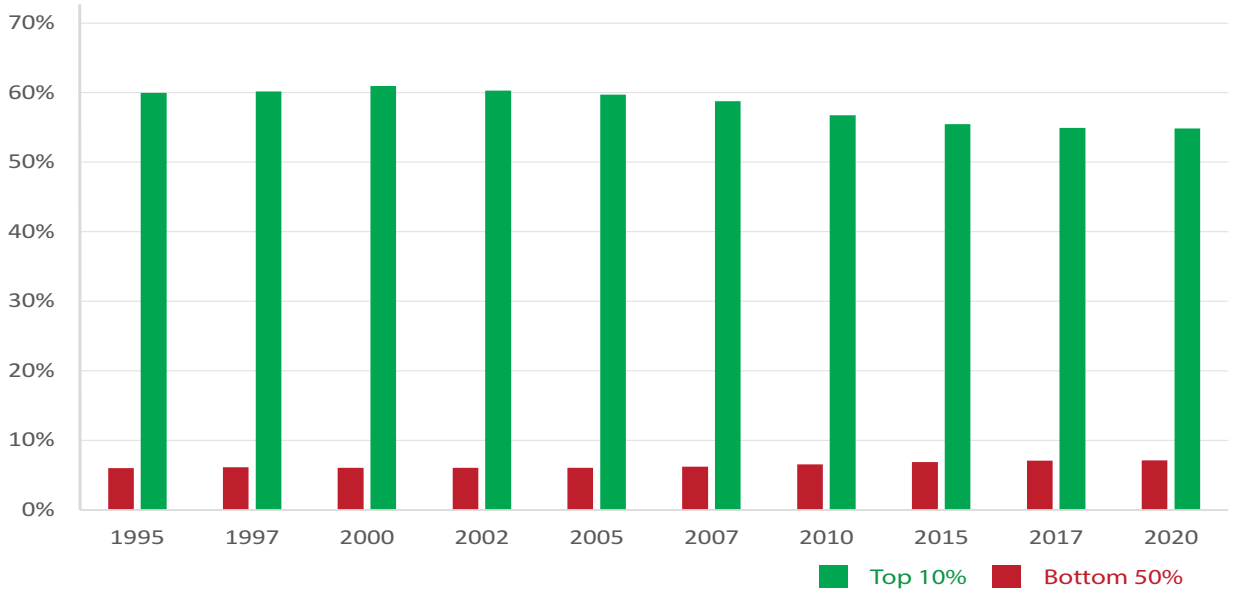


Table 10.14 below provides data on the proportion of world's millionaires living in particular countries.

Table 10.14:
Percentage of millionaires living in countries 2021

Country	World's millionaires living there (percentage)
United States	39
China	9
Japan	7
France	5
Germany	5
United Kingdom	4
Italy	3
Canada	3
Australia	3
Korea	2
Switzerland	2
Spain	2
Netherlands	2
Taiwan	1
Sweden	1
India	1
Rest of World	11

Source: Credit Suisse Research Institute, Global Wealth Report, 2021

As is clear from the data in Table 10.15 below, globally, incomes have grown, on average, by more than 130% over the period from 1980 to 2020. Nevertheless, while all income groups have received a rise in their real income, the growth in the incomes of those who already hold a large share of the global income has been particularly significant. Those in the middle-income ranges have also benefited from growing incomes.

Table 10.15:
Cumulative growth in per capita real income, 1980-2020

Income Group	Total cumulative growth in real income (%)
Bottom 20%	113%
Middle 40%	182%
Top 10%	86%
Top 1%	105%
Top 0.1%	117%
Top 0.01%	160%
Top 0.001%	214%
Full world population	136%

Source: World Inequality Report 2022, https://wir2022.wid.world/

In 2015, two economists—Tomáš Hellebrandt and Paolo Mauro from the Peterson Institute for International Economics—used various sources of data to estimate Global Gini coefficients for household incomes and Table 10.16 summarises their findings. The authors also found that the household income received at the 90th percentile in global distribution was 31 times that at the 10th percentile in 2013. This means that those whose income sits at the bottom of the top 10 per cent of income earners (the 90th percentile) received an income that is, on average, 31 times greater than those whose income means they are at the top of the bottom 10 per cent of income earners (the 10th percentile) in the world. In Australia the ratio of 90th percentile to 10th percentile income was just under 5, while in Denmark it was 2.5, and in China it was over 16 times.

Table 10.16: Global Gini Coefficient (1998-2035)

Year	Gini coefficient
1988	0.693
1993	0.690
2003	0.687
2013	0.649
2035	0.613 (estimate)

Tables 10.17 highlights the wealth of the word's top 10 billionaires. By comparison, Table 10.18 shows the GDP of several countries in the world in 2021 – the total value of all the goods and services those countries produced in 2021. The data shows that the wealth of billionaires such as Elon Musk, Jeff Bezos and Bill Gates surpasses the size of entire economies such as Bulgaria, Kenya and Bolivia.

Table 10.17
Wealth of the top 10 billionaires in the world

Rank	Name	Wealth (US $ billion)
1	Elon Musk	219
2	Jess Bezos	171
3	Bernard Arnault & family	158
4	Bill Gates	129
5	Warren Buffett	118
6	Larry Page	111
7	Sergey Brin	107
8	Larry Ellison	106
9	Steve Ballmer	91.4
10	Mukesh Ambani	90.7

Source: Forbes Billionaires List, 2022

Table 10.18:
GDP of selected countries (2021 – latest data)

Country	GDP (US $billion)
Australia	1542
Sweden	627
Nigeria	440
New Zealand	250
Kenya	110
Bulgaria	80
Uruguay	59
Bolivia	40
Cambodia	27
Botswana	17

Application exercise 10j interrogation

While it might appear self-evident that income inequality is worsening globally, as economists, we must be able to interrogate the data available and use that data to develop and support our own conclusions.
Tables 10.14 to 10.18 above contain data on a variety of measures that can be used to measure global inequality. Using Excel, create a series of graphic representations of this data, and write your own description and analysis of what they show. This will assist you in developing a key economic skill – the representation and interpretation of statistical data.

Key ideas you could use to structure your responses include:
1. What does the data show about the incident of inequality in income and wealth distribution globally.
2. How income and wealth inequality has changed over time

Extension:
- Use a search engine to find the latest World Inequality Report
- Choose one of the themes of the report and create a brief presentation to your classmates on the findings in this area.

Evidence of global poverty

Many Australians rarely have to think about poverty. We live in a country where the provision of a basic standard of living for everyone is a key goal of the government. There are still pockets of enormous disadvantage in Australia, especially among remote indigenous communities and some other members of the community as outlined in earlier sections of this chapter. Nevertheless, most of us do not encounter extreme poverty on a daily basis. This is a far cry from the situation in a large number of countries around the world, as anyone will know who has travelled in the 'developing' world. The World Bank classifies those living on less than $1.90 per day as living in 'extreme poverty'. Extreme poverty was defined by the United Nations in 1995 as

> ***'a condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services'.***

Chart 10.11 shows that four out of every 10 people (over 40%) living in Sub-Saharan Africa, live below the globally-defined extreme poverty line of $1.90 per day, compared to the world poverty rate of below 9%. Until the arrival of the COVID-19 global pandemic in 2020, there had been some good news on the level of poverty in the world in the last few decades. World Bank data showed that the percentage of the world's population living in extreme poverty (on less than $1.90 a day) had fallen from 35% in 1990 to 8.7% in 2018. This meant that the number of people living in extreme poverty had also fallen – from 1.85 billion in 1990 to just under 700 million in 2018.

Chart 10.11: Percentage of population living in extreme poverty by region (2018)
[Population living on less than $1.90 ppp per day]

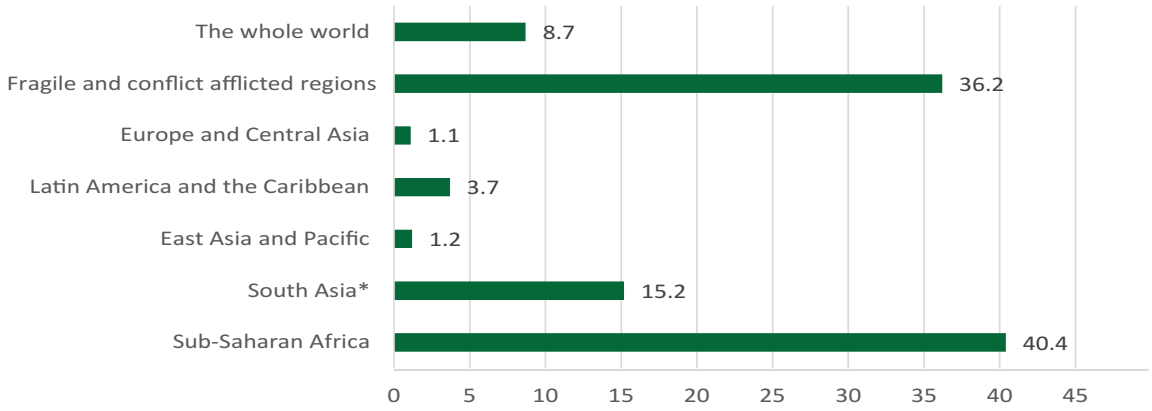


Chart 10.12 shows the level of undernourishment according to income levels of countries. Undernourishment refers to those people whose intake of food is below the minimum level needed to meet their dietary energy requirements. A simple way of the expressing this is that these people don't get enough to eat to carry on their normal daily tasks and to live a decent life. The chart reveal two things. Firstly, a correlation between the level of income and the prevalence of undernourishment, and secondly that the prevalence of undernourishment had been falling in most areas until 2019. Not surprisingly there are very low rates of undernourishment in High Income countries (below 3%) and the highest rates of undernourishment are in the Low-income countries.

Chart 10.12:
Prevalence of undernourishment by country income classification (% population)

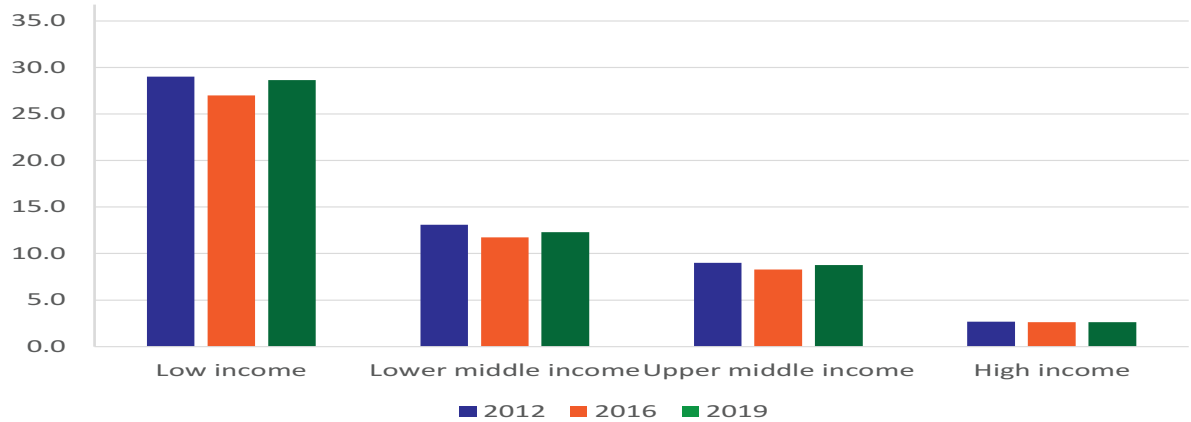
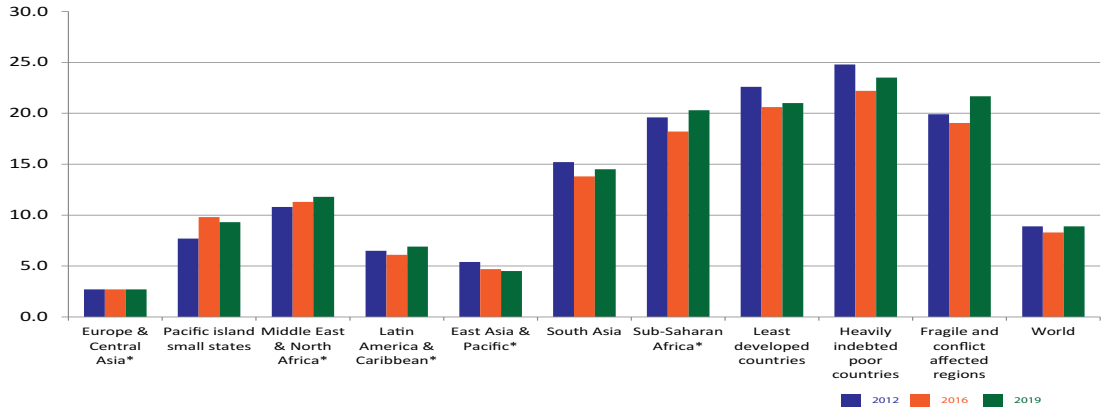


Chart 10.13 shows the level of undernourishment by region. Sub-Saharan Africa is the region of the world that continues to experience the highest prevalence of undernourishment. Worth noting is that in most regions, the prevalence of undernourishment decreased between 2012 and 2016, but rose again since then. Earlier data reveals that from 2000 onwards, there was a notable decrease in the prevalence of undernourishment, at least in part due to the implementation of the Millennium Development Goals, a global response to extreme poverty that will be considered later in this chapter.

Chart 10.13: Prevalence of undernourishment by region
(% of population)



Review questions 10.5

1. Identify where Australia sits in the rankings of OECD countries by Gini coefficient and explain what this indicates about the degree of income inequality in Australia compared to other 'like countries'.
2. Explain why the World Bank uses Gross National Income (GNI) to classify countries by income, and why GNI per capita may be a more useful indicator of living standards than GDP per capita, particularly in poorer countries.
3. Explain how the HDI is measured.
4. Explain why the HDI can provide a better indicator of wellbeing than a monetary measure like 'GNI per capita.'
5. Describe what has happened to average HDI over time and outline what this might indicate for rates of extreme poverty and inequality globally.
6. In what region of the world are most of the countries with low levels of human development located?
7. Summarise what the World Inequality Lab researchers found had happened to both the levels and the distribution of income and wealth across the globe in recent decades.
8. Explain whether income or wealth is more unequally shared globally, using the data provided to justify your response.
9. Identify which region of the world has the most unequal distribution of wealth.
10. Describe the trend in the Global Gini coefficient between 1988 and 2013. Explain what the trend indicates about changes in the distribution of income across the world's population.
11. Describe what is predicted to happen to the Global Gini coefficient by 2035, and what this indicates about the distribution of global income across that time.
12. Compare the Global Gini coefficient to the Gini coefficients of Australia, Denmark, South Africa and the United Kingdom. Does the Global Gini coefficient indicate a relatively equal or unequal distribution of income?
13. Explain how 'extreme poverty' is defined.
14. Describe the two areas of the world with the highest incidence of extreme poverty.
15. Define 'undernourishment' and describe the relationship between country income classification and rates of undernourishment.
16. Describe what has happened to global rates of undernourishment since 2012.

Application exercise 10k Data analysis

Using data presented in Section 10.5, complete the following tasks:

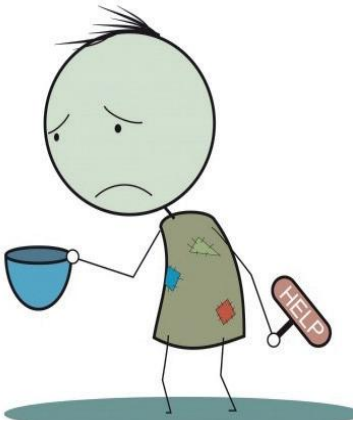
1. Explain what is meant by 'extreme poverty'.
2. Describe the overall trend in the proportion of the world's population living in 'extreme poverty' since 1990.
3. Explain how the trend described in your answer to part b. is likely to have affected the quality of life in developing countries.
4. According to the data, which area of the world lifted the largest proportion of its population out of poverty over the time period shown?
5. Define undernourishment and describe the likely social and economic impacts of undernourishment in a country.
6. Describe the correlation between undernourishment and country income classification.
7. Describe the correlation between undernourishment, poverty and conflict according to the data provided.
8. Which region of the world experiences the highest and lowest rates of undernourishment according to the data provided.
9. Describe the trend in in rates of undernourishment over the time period shown.

10.6 Why income and wealth distribution and poverty are important economic issues at the local, national and international level

Equity versus equality

When we consider the importance of income and wealth distribution and poverty as economic issues, we need to consider what might be an optimal distribution of income and wealth, and what is a minimum standard of living required such that Australians aren't living in relative poverty? This is where economists often fall back into considering the difference between 'equality' in income and wealth distribution, and equity in their distribution.

In loose terms we can think of **equity** and **equality** as the same term, but in reality they are quite different. Equity is more closely related to **fairness**, while equality is more related to **evenness**. In most advanced economies, including Australia, governments seek to achieve 'equity' in the distribution of income, but not 'equality' in income distribution. To illustrate, if two households earn the same income, then we have equality. However, if one household's needs are greater than the other's (e.g. because of a member who has a disability requiring special care) then the same income for both will achieve equality without equity. Similarly, if we assume that two workers receive the same income from their employer for working 40 hours in a week, then this will achieve equality. However, it would not be equitable (i.e. it would fail to achieve equity) if one of these employees was unskilled while the other was highly skilled, having invested considerable time and money in training and education.



Some inequality in the distribution of income is a necessary feature of a 'capitalist' economic system that is underpinned by self-interest and the desire to maximise personal income and wealth. Accordingly, governments instead focus more on achieving an equitable distribution of income. In Australia, this is considered to be one where:

1. Australians have sufficient income to purchase those goods and services that enables them to have a **dignified standard of living**. This involves households being able to afford the goods and services that allows them to live in our affluent and modern society with some 'dignity' and 'self respect'.
2. No persons or households in Australia are experiencing **absolute poverty**, defined as the situation where one can't afford to purchase the goods and services necessary for survival.
3. To ensure that huge or **obscene inequality** in the way that incomes (and to a lesser extent wealth) are distributed across society are avoided.

Often those measures that aim to improve 'equity' in income distribution also serve to reduce 'inequality' in income distribution, and so to some extent a reduction in inequality can be seen as synonymous with an improvement in equity. So, while the government does not seek to achieve equality in income distribution, measures that reduce the inequality in income distribution, while also allowing everyone to access a dignified standard of living and avoid absolute poverty, will help to achieve greater equity in income distribution. Specific budgetary policy decisions and the effects on the achievement of equity in the distribution of income will be examined later in this chapter.

The effect of poverty in Australia on living standards

As discussed in earlier parts of this textbook, **living standards** refers to the well-being of citizens in a society as determined by a collection of material and non-material factors. Material factors primarily relate to a household's access to goods and services and depend on the amount of income earned by a household. It is often measured by real GDP per person – and that is certainly a key indicator used in Australia. Non-material factors relate to all of the other influences impacting on our standard of living that are unrelated to material factors. It includes freedom of expression, job security, crime levels, educational outcomes, general health and levels of helplessness or despair that might be experienced by some members of society.

An increase in poverty has the potential to reduce both material and non-material living standards. In relation to material factors, poverty is typically associated with poor outcomes for health and education of those family members living in poverty. They are less likely to have the financial means to support a healthy diet, visit medical professionals, or pay for needed medicines. Accordingly, they are more likely to fall into a state of poor physical and mental health. Similarly, the children of those living in poverty are less likely to be engaged at school, resulting in lower skill levels and an increased likelihood of unemployment later in life. Poor health and educational outcomes will then have negative implications for the ability of the impoverished to earn incomes and improve their material standard of living in the future. Indeed, the relationship between poverty, health and education levels has negative implications for the economy more generally, as productivity levels are likely to be lower, which impacts negatively on economic growth.

As the authors of the Bankwest report into poverty in 2022 observed:

> ***'Poverty scars people. It gets under the skin. … People who experience childhood poverty are up to 8 percentage points more likely to remain in poverty in adult life. The chances of securing future employment after a poverty in childhood are up to 11 percentage points lower compared to those who did not come from a poor childhood background.'***

Clearly, poverty will also impose a number of costs on society that are 'non-material' in nature. These costs include:

- The helplessness, despair or mental illness (e.g. depression) that may be experienced by those living in absolute (or relative) poverty.
- An increase in social unrest or anti-social behaviour (such as crime).
- The development of a 'class system' in society, and a growing sense of 'us' and 'them'.
- The loss of social mobility and inequality of opportunity, with some groups unable to break a cycle of poverty. This contributes to intergenerational poverty as future generations of poverty-stricken families find it difficult to break free of the constraints that bound their families.

Again, the Bankwest report into poverty in 2022 noted that:

> ***'(Those who come from a poor childhood background) are significantly more likely to suffer from nervousness or feel unhappy with their lives for up to 10 years after leaving home. . People in poverty for at least five years of the last ten years are three times more likely to suffer acute mental stress compared to people who have never experienced poverty.'***

In his maiden speech to parliament, Professor of Economics turned Federal Politician, Dr Andrew Leigh, warned parliament about the dangers of too much inequality and poverty. He said:

> ***"As an economist, much of my research has been devoted to the vast challenges of reducing poverty and disadvantage. I believe that rising inequality strains the social fabric. Too much inequality cleaves us one from another: occupying different suburbs, using different services, and losing our sense of shared purpose. Anyone who believes in egalitarianism as the animating spirit of the Australian settlement should recoil at this vision of our future."***

Application exercise 10l Poverty and stress

A person can be considered to be in financial stress or financially vulnerable if they are experiencing cash-flow problems or are unable to raise emergency funds. In Australia, around 40% of households reported being in financial stress in 2021. According to the latest Australian Institute of Health and Wellbeing report (2021):

- 2 in 5 households are in housing stress – where they spend more than 30% of their income on housing. The proportion of lower income renter households in housing stress rose steadily between 2007-08 and 2017-18. In 2017-18, 43% of lower income renter households paid more than 30% of their income on housing costs, which is a substantial increase compared to 35% in 2007-08.
- Most Australians also reported lower life satisfaction overall in 2020. On average, they rated their overall life satisfaction as 7.2 out of 10, which compares to 7.5 in 2019 and 7.6 in 2014.

A survey by the Australian Institute of Family Studies in June 2021 revealed the following about the experience of financial stress in Australia:

- 18% said they could not pay utility bills on time
- 13% said they went without meals
- 11% said they could not pay the rent or mortgage on time
- 11% said they pawned or sold something
- 10% said they could not heat or cool their home
- 8% said they asked for assistance from a charity of community organisation.

In addition, 33% or respondents said that they experienced more than one of these stresses, and 12% said that they experienced three or more of them. Aboriginal and Torres Strait Islander people reported higher rates of what would be defined as financial stress compared to the non-Indigenous population. More than half (53%) of Indigenous Australians aged 15 and over reported that they lived in a household that could not raise $2,000 within a week for an emergency. Almost 2 in 5 reported that their household had days without money for basic living expenses in the last 12 months, which was an increase of 11 percentage points from the figure four years earlier.

Questions/tasks:

1. Define 'financial stress' and 'housing stress'.
2. Explain how financial stress can contribute to poorer material and non-material living standards over time.
3. Identify the differences in experience of financial stress between Indigenous and non-Indigenous Australians.

Extension: Undertake some online research to investigate some of the factors contributing to higher rates of financial stress among Indigenous Australians compared to non-Indigenous Australians.

Review questions 10.6a

1. Explain what is meant by a dignified standard of living.
2. Describe how 'equity' in income distribution is generally defined in Australia, and how this is different to 'equality' in income distribution
3. Outline why greater equality might not be equitable.
4. Outline why greater equity might be consistent with a more uneven distribution of income.
5. Explain how poverty can contribute to a reduction in material living standards. Include references to access to goods and services and longer-term productivity across the economy.
6. Explain how poverty can contribute to a reduction in non-material living standards. Use specific data to support your answer.
7. Explain what is meant by the statement 'Poverty scars people.' and provide two examples of evidence from the reading that support the statement.

The effect of inequality on living standards

In general, Australian governments believe that the benefits of achieving a level of equity in the distribution of income outweigh the costs, such that the net benefits for society are positive over time. The extent to which different governments have been committed to intervening in the economy to promote more or less redistribution of income (and wealth) and to address poverty have varied over time, and these interventions are considered later in this chapter. However, in general, governments recognise that allowing extreme levels of inequality to persist in Australia can have significant negative economic (and social) consequences that are best avoided.

This does not mean, however, that the pursuit of equity (as defined in the previous section) does not involve some costs, both economic and social, over time. It is the government's responsibility to ensure that the right balance is achieved and that any changes that take place to income distribution in society, either because of, or independent of, government actions, are countered with effective policies that help to ensure that the benefits of pursuing and/or achieving equity in the distribution always outweigh the costs.

The economic and social costs of income and wealth inequality in Australia

The social benefits of achieving equity provide the overriding motivation for governments to reduce both poverty and the degree of inequality in the distribution of income. The achievement of equity will be beneficial for society because it helps to minimise or avoid the **social costs of inequality**:

- There is likely to be increased incidence of **mental health problems** (e.g. depression) in a society with a large degree of inequality. This negatively impacts on the living standards of those affected, in addition to other members of society providing care or living in the same community.
- There is the potential **social unrest** that can develop when particular groups (e.g. those living in poverty or those who feel 'left out' because their incomes are so much lower than others in the community) become increasingly marginalised from mainstream society. These groups are more likely to engage in 'anti-social' behaviour or resort to crime, having a detrimental impact on non-material living standards of the average Australian as social tension or unrest intensifies.
- A **class system** is more likely to become evident when income inequality reaches high levels. Some individuals on higher incomes may consider themselves to be in a higher 'social class' compared to those on low incomes (or those on lower incomes consider themselves to be in a lower 'social class') which tends to impair social harmony.
- Income inequality can promote **conspicuous consumption**, which occurs when individuals purchase expensive goods or services (such as luxury cars and designer labels) in order to signal their wealth or 'status' to other members of society. This can be socially divisive as the perception of inequality grows and some people become less satisfied with their current standard of living.
- Income inequality will tend to create and worsen **wealth inequality** which then feeds back to add to income inequality over time. For example, the children of wealthy parents are more likely to earn higher incomes during their lifetimes due to the income returns that are earned on inherited wealth.
- The **inequality of opportunity** that can develop in a society with greater income (and wealth) inequality, with the opportunities to enjoy the 'highest quality' education or health, for example, being limited to wealthier households.

- The existence of poverty (particularly absolute poverty) and/or huge inequality can cause some members of society to feel a sense of **guilt or helplessness** about the plight of marginalised groups. The sight of desperate or homeless persons, for example, can reduce their enjoyment of life, thereby reducing living standards of the average Australian.
- Social costs can directly add to **economic costs** via the impact that crime, mental illness, etc. will have on government emergency services and health budgets. Higher government spending on crime prevention or health adds to taxation pressures, or results in spending cuts in other areas. This can add to business costs, raise prices and dampen economic growth.
- In addition, the increased incidence of crime, social tension and visible homelessness can directly reduce tourism export income, further reducing aggregate demand and economic growth. Accordingly, achieving equity will help to generate **economic benefits** in the form of reducing or minimising some of the economic costs that are a direct result of inequality or poverty.

- There is also a reduced **cost to the government** (or the taxpayer) as fewer persons require income support – for example through income supplements or subsidised housing. This can result in lower average tax levels (or smaller budget deficits) that decrease business costs, prices and stimulates economic growth. Alternatively, the government won't need to cut spending in other areas, such as education and health, which can have a negative impact on average living standards.
- When a society has a small number of people at the top of the income (and wealth) spectrum, those people can often use their position and political influence to increase their personal gains. This is called **rent seeking**. These people can influence political debate through lobbying and ownership of media outlets, and encourage the implementation of policies that will increase their own personal wealth and income at the expense of others in the community.
- There can be short term **benefits to economic growth** that are related to the fact that lower income earners have a much higher **marginal propensity to consume** than higher income earners. As income inequality falls, more of society's 'income cake' might be received by relatively low-income earners. As this group spends more of every extra dollar of income earned on goods and services (rather than saving it), the contribution to consumption expenditure (and AD) is likely to be higher.
- There is the benefit in terms of **gained satisfaction** that relates to the **law of diminishing marginal utility**. When more income is earned by higher income earners relative to lower income earners, the extra satisfaction they enjoy from each additional dollar of consumption is likely to be less than the utility that would be enjoyed by lower income earners. For example, a low-income earner is likely to achieve extra satisfaction from an additional $100 of spending compared to a higher income earner. In this respect, lower levels of income inequality can have a positive impact on total consumer satisfaction in the economy.

The economic and social effects of global income and wealth inequality and poverty

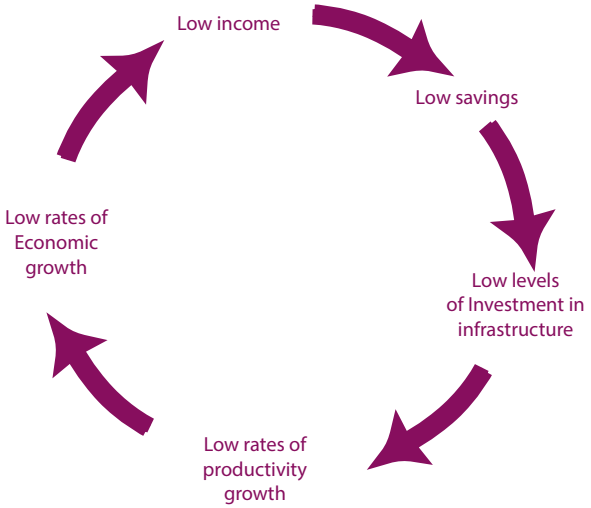
Many of the economic and social consequences of inequality and poverty outlined earlier in this section can be extrapolated to when considering the implications of inequality and poverty globally.

- The potential for **social unrest** is certainly a factor when considering the effects of global poverty and inequality. Those countries with higher rates of poverty are increasingly places from which people want to migrate to gain a better quality of life other, wealthier countries. For example, in 2011, a global movement sprang up opposing the concentration of income and wealth, particularly in the United States. Called the Occupy movement, it harnessed the frustration of a growing number of people and coined the phrase 'We are the 99%' – reference to the fact that wealth is highly concentrated (both in the US and globally) among the top '1 per cent'. It reflected the opinion that the 99% (everyone else) was paying the price for the mistakes of a tiny minority of extremely wealthy people.
- Countries with high levels of poverty often have **high birth rates**, and their populations are growing very rapidly. This can result in overpopulation, which means they have a large number of people with too few productive resources or too little space to support them. Such high birth rates can be based on sound economic reasoning by families, which have no social safety net and need several children to support them in old age. High rates of infant mortality (children dying before their first birthday) also means some families may choose to have more children because of the increased risk of them dying. However, the economic implications of high population growth can be quite negative. Because of limited infrastructure and revenue from taxation, governments find it hard to provide

basic services, like education and health care, and the lack of education and skills means that, even though poor countries often have large amounts of labour, it is often unskilled and relatively **low rates of labour productivity** are achieved.

- As mentioned earlier, since income inequality creates and worsens **wealth inequality**, which then feeds back to add to income inequality over time, there seems to be no escape for those who were not born into privilege. For example, the children of wealthy parents are more likely to earn higher incomes during their lifetimes due to the income returns that are earned on inherited wealth.
- Because of low average levels of income in many of the poorest countries, along with a concentration of wealth in a small number of countries, there is a lack of savings for investment in poor countries. This then means a lack of infrastructure, which in turn creates a low level of both output relative to the population and low levels of productivity (output per hour worked). The result is that incomes remain low, and consequently people have little spare income for savings, meaning there is no money for investment. This idea of countries ending up in a **poverty trap** – that the preconditions of poverty actually then serve to make the poverty worse – has been identified as a key factor keeping poor countries poor. This is depicted in Figure 10.10

Figure 10.10: The poverty cycle



- In addition, many of the jobs available in poorer countries will be in the primary sector – such as agriculture – meaning that these countries are highly vulnerable to variations in climate, fluctuating commodity prices and the vagaries of the global trading system. This can lead to **instability in both employment and income**. It can also exacerbate **land degradation** as people reliant on land resources may over-develop and over-use them in order to eke out a living.
- For an increasing number of people in wealthier countries, it is becoming clearer that the persistence of global poverty – the idea that there are still over 700 million people in the world living on less than $1.90 per day – is highly unjust. In part, this is due to the increasing evidence that a more unequal world (or country) actually has negative personal and economic consequence for everyone. But is it also a recognition that, as much as we have control over how hard we work and some of the life choices we make, we none of us choose where and when we are born. And many are increasingly aware that this single, unchangeable and random factor largely determines the conditions in which we live our lives. Allowing the persistence of high levels of global inequality in income and wealth, and the existence of absolute poverty, also contributes to ongoing **inequality of opportunity**. It seems increasingly untenable that the opportunities to enjoy the 'highest quality' education or health, are limited to those in wealthier countries. (Global responses to inequality and poverty are considered in the final section of this chapter.)

Review questions 10.6b

1. Describe four social benefits from pursuing or achieving equity in the distribution of income.
2. Describe two economic benefits from pursuing or achieving equity in the distribution of income and wealth.
3. Describe how global income inequality can lead to unrest and increase rates of migration.
4. Explain the relationship between high rates of poverty and low rates of productivity in an economy.
5. Define the concept of a 'poverty trap' and explain how this can exacerbate poverty even further.
6. Describe how high rates of poverty globally can contribute to land degradation.
7. Explain why some people argue that high rates of global income and wealth inequality are unjust. Include in your response a reference to the idea of 'inequality of opportunity' and luck.

Application Exercise 10m Effects of inequality and poverty

Read the edited edited extract of the Research Publication titled 'Some economic effects of inequality', written by Dr Anne Holmes for the Australian Parliamentary Library. Answer the questions that follow.

It is important to distinguish between inequality and wealth and poverty. A rich country can be relatively unequal, and a poor country can be relatively equal. Many effects of poverty are well known. For example, children of poor families do not perform as well at school as those of affluent families. Poor people have worse health than rich people. These are results—or at least correlates—of poverty, and they have been documented in most societies. The relationships are usually fairly easy to demonstrate by correlating two variables; for example, by linking family income of a large number of subjects and the test scores or health status of those subjects.

Is there an economic issue [related to poverty]? Two pressing economic issues today are the need to lift productivity and the need to promote growth while avoiding financial instability of the kind that culminated in the global financial crisis. It is possible that inequality reduces labour productivity. It is also possible that it is a brake on growth and can lead to economic instability.

[In terms of health] If people are not healthy they will not work to their full productive capacity. Ascertaining whether inequality is a direct cause of ill health (as opposed to merely being correlated with it) is difficult. On balance, the research seems to indicate that inequality causes poor health. One possible mechanism for this is through increases in stress, which is a known risk factor for many diseases. Specifically, World Health Organization research shows that in Europe more unequal countries have poorer mental health outcomes.

[In terms of education] If children are less successful at school, they are less likely to become highly skilled workers. Their productive capacity, and therefore the productive capacity of the economy, is diminished. OECD research concludes that policies to improve high school and tertiary education completion rates also improve gross domestic product per capita.

Inequality reduces performance because of its segregating effects. There is a good deal of evidence that children's school success depends at least partly on the interests and aspirations of their peers. The influence of peers is greater than any school effects, including teacher quality. If schools are segregated, children from socioeconomically disadvantaged households will mix with other disadvantaged children, and thus with children who do not perform well at school. Segregation is more likely in an unequal society. The negative effects of poor children associating with less gifted children are greater than any positive effects of affluent children associating with more gifted children. So inequality may cause a net reduction in educational attainment.

Source: www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook44p/EconEffects

Tasks:

1. **Describe the link between poverty and health outcomes.**
2. **Describe the link between poverty and educational outcomes.**
3. **Explain how one can demonstrate the relationship between poverty and health/educational outcomes.**
4. **Describe the link between poverty, productivity and economic instability.**
5. **Explain what is meant by 'segregation' at schools.**
6. **Describe the link between school segregation and inequality.**
7. **Explain why the author suggests that inequality may cause a net reduction in educational attainment.**

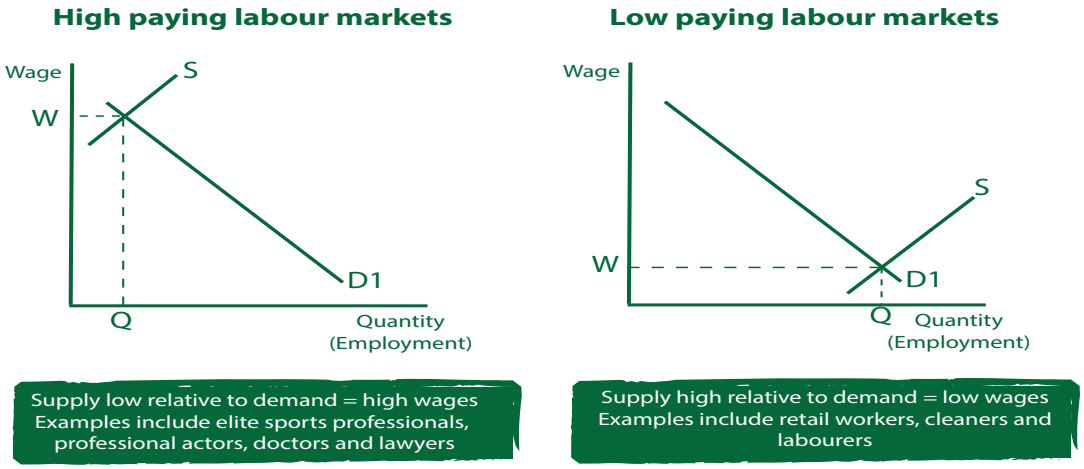
10.7 Causes of income and wealth inequality and poverty in Australia

Factors related to labour markets

Given that the bulk of household income comes in the form of wages and salaries (approximately 60%), it stands to reason that a major factor creating inequality in the distribution of income and wealth is the vastly different remuneration levels received by income earners. This occurs primarily because of the differences in skills, talents or abilities that are held by members of the workforce. In economics, we often refer to this as differences in the **'quality of human capital'**.

Overall, the highest wage or remuneration levels are received by those individuals who supply their labour services to markets where the supply of labour is low relative to the demand. In other words, when the demand for labour is high relative to the supply of labour we would expect the wage to relatively high. Often this occurs when the skill or talent possessed by individuals is relatively rare or unique. This usually results from years of training and education (such as those in the medical or legal professions) or the willingness to take risks (such as entrepreneurs and those prepared to work in dangerous environments) but can also occur when someone holds a 'God-given talent', such as some musicians, sportspersons and actors. In contrast, when the supply of labour is high relative to the demand for labour we would expect the remuneration to be relatively low. This is depicted in Figure 10.11 below.

Figure 10.11



There are a number of other factors within labour markets, apart from skills or talents, which can determine rates of pay and help to explain why some households or individuals earn relatively high incomes. For example, it is possible for individuals to earn very high wages if they are prepared to:

- Work longer hours or increase work intensity (productivity)
- Take very high physical risks, such as working with explosives
- Take very high financial risks, such as investing what money they have in a risky investment
- Work in remote or harsh locations, such as in the mining industry in outback Western Australia.

The high level of incomes earned by a relatively small proportion of households is then likely to create even further levels of inequality in income (and wealth). This is because the high household income levels can be invested in assets that grow over the long term, such as growth in the value of shares, property, businesses or other factors of production. This **unequal ownership of factors of production,** and the higher net wealth that this creates for higher income earners, will generate additional income (e.g. capital gains on shares and property) and further contribute to inequality. This is in stark contrast to the situation afflicting low income households. All or most of their income must be used to meet their basic needs, leaving little left to be saved and invested in wealth-creating assets. The process of high income households being able to accumulate more and more income and wealth builds over time, and works to create a greater degree of inequality requiring some form of government intervention.

Unemployment is also a major factor helping to explain income inequality. Unemployment refers to the number of people who are actively seeking a job but are not in paid employment (or are working less than one hour per week). Many people become unemployed during their lives for short periods, such as when they are moving from one job towards another (referred to as **frictional unemployment**), or when there has been an economic downturn causing a fall in the demand for labour (referred to as **cyclical unemployment**). However, a number of people become unemployed for extended periods of time, such as more than one year (referred to as **long-term unemployment**). This is often caused by changes to the structure of industry that results in many workers no longer possessing the skills, or human capital, that is required by industries (referred to as **structural unemployment**). This means that the demand for workers with those particular skills no longer exists, such that supply of these workers exceeds demand, causing unemployment. ABS data revealed that in April 2021, 1 in 3 unemployed people in Australia (33.5%) are long-term unemployed, and this was a level not seen since the 1990s.

Increasingly in Australia, more and more people are working part-time or casual hours and this process has been referred to as **casualisation** of the labour force. To the extent that some of these people are reluctantly working less than full-time hours, they are considered to be underemployed. The rate of **underemployment** has increased significantly in Australia, from less than 6% (of the workforce) in 2000 to more than 13% in 2020, before falling to 6% in July 2022. A contributing factor is the rise of the **'gig economy'**, where people are given the opportunity to work on a 'one-off' or 'casual' basis (e.g. in industries such as transport or food delivery) enabling them to work at least some hours while they

search for longer and more secure employment. Growing underemployment and the rise of the gig economy over time are therefore additional factors that can impact negatively on income inequality and poverty..

There is a particularly insidious form of unemployment, related to long term unemployment, referred to as **Hard-core unemployment**. It includes those people who have been unemployed for a prolonged period of time due to lack of skills or motivation to find employment. However, it also includes those who are unemployed due to mental or physical characteristics that prevent them from gaining employment. For example, a renowned criminal with a psychological disorder will typically find it difficult to gain employment, resulting in them being unemployed for up to several years. Hard-core or long-term unemployment might also result from discrimination based on race or gender that occurs in some workplaces that either prevents certain groups from gaining employment or prevents them from advancing to higher remuneration levels within organisations. While workplace discrimination is illegal, it remains the case that some people or groups are discriminated against by employers in breach of the law [see Application Exercise 10p].

In some cases, individuals who have been long-term (or hard-core) unemployed eventually stop looking for work. They then join those people who have become discouraged by lack of job opportunities, or repeated rejections, to exit the labour market altogether. This group of people are often referred to as the pool of **hidden unemployed**. They are hidden from unemployment statistics because they are no longer looking for paid employment. This group of people are at serious risk of living in absolute poverty given that they will be ineligible for JobSeeker Allowance [recipients need to be actively seeking employment], which further adds to income inequality.

Application Exercise 10n:

Complete the following exercise by identifying the types of unemployment summarised in the table.

Types of Unemployment	Description
	Where the jobs that people do only exist for a certain part of the year. E.g. ski instructor – only have a job for a few months a year. E.g. someone who gets a job just for the Christmas retail rush period.
	Also referred to as discouraged job seekers – these are people who would like a job but have stopped looking for one because they've had no luck after searching for a while.
	Where job seekers' skills don't match the jobs that are available. E.g. a company decides to close its factory and move the factory overseas, so all the workers lose their jobs. E.g. a company decides to replace its workers with technology such as robotics.
	Where someone has personal characteristics that restrict their ability /disposition to seek and be able to keep a job.
	When a person is unemployed for more than one year they are experiencing this type of unemployment.
	Not technically unemployed, this happens when someone is employed, but is working fewer hours than they would like. For example, they may be working part-time but want to work full-time.
	Where there aren't enough jobs for people because the economy is growing too slowly. This happens when there is not enough Aggregate Demand (spending). This type of unemployment happens during an economic downturn, such as the recent example of the slowing down of the economy during the COVID-19 pandemic.
	People are between jobs e.g. someone quits their job and is looking for another job but hasn't found one yet.

Overall, when unemployment occurs, it means that individuals move from earning **factor incomes**, such as a wage, to much lower **transfer incomes**, such as unemployment benefits (referred to as JobSeeker Allowance) or a pension. In some cases, unemployed people might be in receipt of no transfer income at all (e.g. they fail to meet the strict eligibility requirements for JobSeeker Allowance). When unemployment increases, particularly long-term or hard-core unemployment, it will greatly increase the likelihood that the distribution of income becomes more unequal and a greater number of Australians will be living in poverty.

Application Exercise 10o The Gig economy and income inequality

There would be few Australians who have not benefited from the convenience provided by one of the online platforms that deliver on-demand services. In Australia, these include transport services such as Uber, and food delivery services like DoorDash and Menulog. But increasingly these digital platforms are coming under scrutiny over how they employ and pay their workers. The gig economy has boomed – and became particularly important during the COVID-19 pandemic when home delivery services proliferated. According to data, the gig economy grew nine-fold between 2015 and 2019 and was worth $6.3 billion in 2019.

In Australia, working conditions are overseen by Fair Work Australia, which is a government agency. They define the gig economy as being comprised of companies that use 'mobile apps or website to connect individuals providing services with consumers.'

Promoters of the gig-economy style of jobs cite their flexibility and convenience, since people are able to offer their labour services when it suits them. However, it almost always involves the worker acting as an independent contractor for these companies, which means they are not employees and are effectively self-employed, with all its attendant responsibilities and variable income stream. In addition, it's very easy to sign up to become a gig economy worker – you basically just need a car or a motorcycle, or even a scooter. The hours are typically very flexible, since one only works when you sign on to the app.

But there are downsides to being a gig economy worker. Firstly, all of the platforms – Uber, Uber Eats, Menu Log, Didi etc. – take a substantial 'cut' from each delivery fee earned. Secondly, the gig worker has to cover all the costs of providing their service – unlike a regular employee, who is usually provided with the tools for their job and don't pay for them themselves. For example, your teacher will have been provided with a laptop as part of their employment, and any travel costs they incur doing their job (e.g. going on an excursion) will be covered by the school. For example, a study commissioned by Uber found that the average hourly wage of Uber drivers (after expenses) was $21 – which is below the minimum wage of casual workers in Australia. Another study conducted by the Transport Workers' Union (TWU) found that rideshare gig workers earned just over $10 per hour after costs! In addition, because the workers are considered contractors, and are not technically employees of the platforms, they do not receive sick leave, paid annual leave, or even some forms of workplace insurance such a Work Cover - an insurance system that supports workers injured on the job.

Because of all of these factors, and also the lack of employee protection, there are increasing questions about the potentially negative impact of the increasing use of gig economy employment practices on workers' long term financial stability in Australia. For example, in 2020, there were 5 delivery rider deaths. The TWU secretary argued that the current system of gig workers is exploitative, with workers 'dying without these companies blinking.'

A recent commentary on the topic made the following point:

> ***For a student looking for a flexible gig on the side to supplement their disposable income, gigs are an easy and accessible option. It's also a means for people experiencing underemployment to even out their income sources. But anyone hoping to fully make a living off these gigs is set to be disadvantaged in comparison to their salaried counterparts, in terms of both pay and worker protection.***

Tasks:

1. Define 'gig economy' and describe the growth of the gig economy in recent years.
2. Create a PMI table to summarise the pluses (benefits), the minuses (drawbacks/ downsides) and the interesting elements of the rise of the gig economy for workers in Australia.
3. Research the current minimum wage for casual workers in Australia. Compare it to the average hourly rates earned by gig workers outlined in this article. Which is the better option?
4. Explain why some commentators claim that gig working is fine for some people but should not become the norm for employment conditions in most industries.
5. Consider your own experience of using the services of gig economy workers – and briefly describe the basis for your choice to use the service.
6. Based on information in this article, predict the potential future impact of the 'gigification' of employment on income inequality in Australia.

Information and quote sourced from: 'The gig economy: Freedom or exploitation?', University of New South Wales Economics Society, https://www.unswecosoc.com/interesting-articles/the-gig-economy-freedom-or-exploitation/

Unregulated markets

Our economic system relies on the operation of the market to determine the allocation of resources. To the extent that the market operates without government intervention through regulation, it can contribute to higher levels of inequality. All of these laws and regulations inhibit businesses, by imposing a regulatory burden that raises the costs of production and reduces production levels (or economic growth). This means that unregulated markets will result in higher rates of economic growth compared to more regulated markets. This can help to both create employment and reduce unemployment rates. To the extent that unemployment is one cause of inequality or poverty, it can be argued that unregulated markets can have a beneficial impact on the distribution of income. However, unregulated markets will tend to result in less equitable outcomes, such as little protection being afforded to low skilled or disadvantaged workers (such as an absence of minimum wage laws) which has the potential to increase inequality in the distribution of income.

Overall, unregulated markets can operate to improve equity by creating more jobs and reducing absolute poverty. However, unregulated markets can operate to reduce equity by widening the gap between higher and lower income earners as low-income households are less protected from the types of activities outlined above.

Over the last few decades, Australian labour markets have been increasingly deregulated, such that wages and conditions for employees are more closely connected to their skills and performance at workplaces. As observed in the section on the labour market above, highly skilled individuals receive the highest remuneration levels, while unskilled labour receive minimum rates of pay. In this respect, labour markets play a prominent role in creating a more inequitable distribution of income and the government attempts to redress this inequality via taxes and transfer payments (considered later in this chapter).

Inheritance

The **inheritance of wealth** is another factor explaining the inequality in the distribution of both income and wealth. Most of the wealthiest households in Australia have inherited at least a portion of their wealth. Because inherited wealth can be invested in various assets that are able to generate income returns, this means that inequality of income is further increased, contributing to the unequal ownership of the factors of production (such as land and capital). The OECD research reveals that countries with higher household wealth tend to have higher average inheritances, with the majority of wealthy households receiving some inheritance over time. This reflected in Chart 10.14 below.

Chart 10.14: Share of population that has received an inheritance or a substantial gift
[Lowest quintile vs highest quintile]

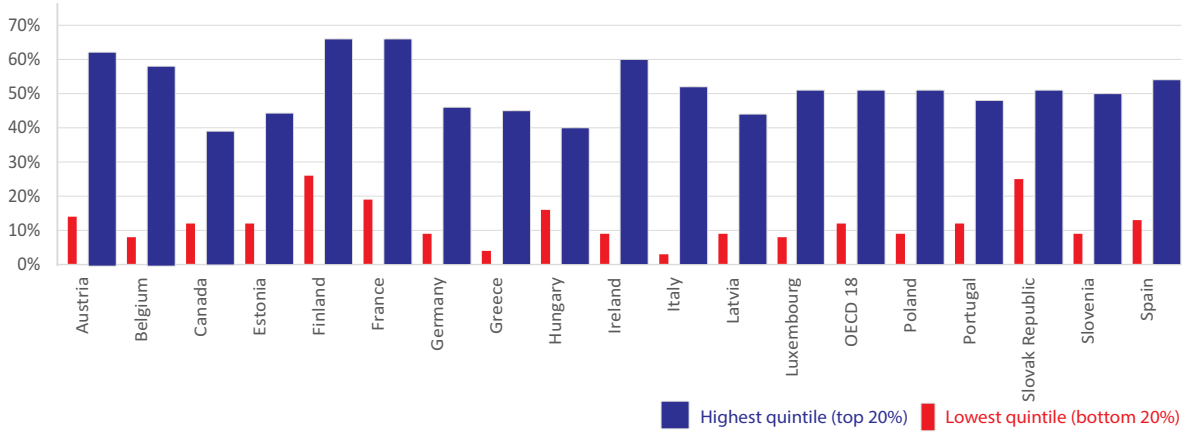
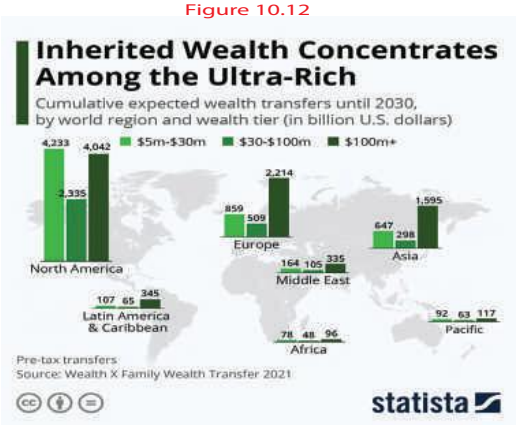


Figure 10.12



Global statistical website, Statista, recently produced an analysis showing how inherited wealth concentrates among the ultra-rich in the world. It's estimates of wealth transfers via inheritance are summarised in Figure 10.12

Even though Australia figures quite minimally in the statistics, it is worth noting that there is an ongoing and cumulative effect of intergenerational wealth transfer, particularly in a country where net worth is relatively unequally distributed as it is in Australia, where more than 60% of all the wealth is held by just 20% of the population.

First Nations opportunities and outcomes

As was detailed earlier, Aboriginal and Torres Strait Island people consistently earn lower average incomes from employment and private sources than non-Indigenous Australians and are more likely to be living on low incomes. Table 10.19 below summarises the information presented in that earlier section.

Table 10.19: Selected income data*, Indigenous and non-Indigenous Australians, 2018-19

	Indigenous Australians	Non-Indigenous Australians
Median gross income adjusted household income per week	$533	$915
Number of households reporting incomes over $1000 per week	1 in 4	1 in 2
Percentage of households with an income in bottom 20% of income distribution	40%	16%
Percentage of households with an income in top 20% of income distribution	8%	22%
Median gross personal income per week in Major cities	$600	$915
Median gross personal income per week in Remote areas	$440	$813
Median gross personal income per week in Very remote areas	$350	$712

*Note: Data is for gross income, as figures on disposable income are not available in this data set.
Source: https://www.aihw.gov.au/reports/australias-welfare/indigenous-income-and-finance

Based on the most recent available Census data, the estimated resident Aboriginal and Torres Strait Islander population of Australia as at 30 June 2016 was 798,400 people, or 3.3 per cent of the total Australian population.

As noted in the 'Overcoming Indigenous Disadvantage Key Indicators 2020' report:

> ***Before colonisation, Aboriginal and Torres Strait Islander people thrived and their cultures were strong and well developed. The history of Aboriginal and Torres Strait Islander people since colonisation, and the intergenerational and ongoing effects on Aboriginal and Torres Strait Islander people, need to be acknowledged and understood.***

When we consider the following list of factors contributing to why the incomes of Indigenous Australians are consistently lower than those of non-Indigenous Australians, it is important to keep in mind the structural and systemic barriers faced by them every day.

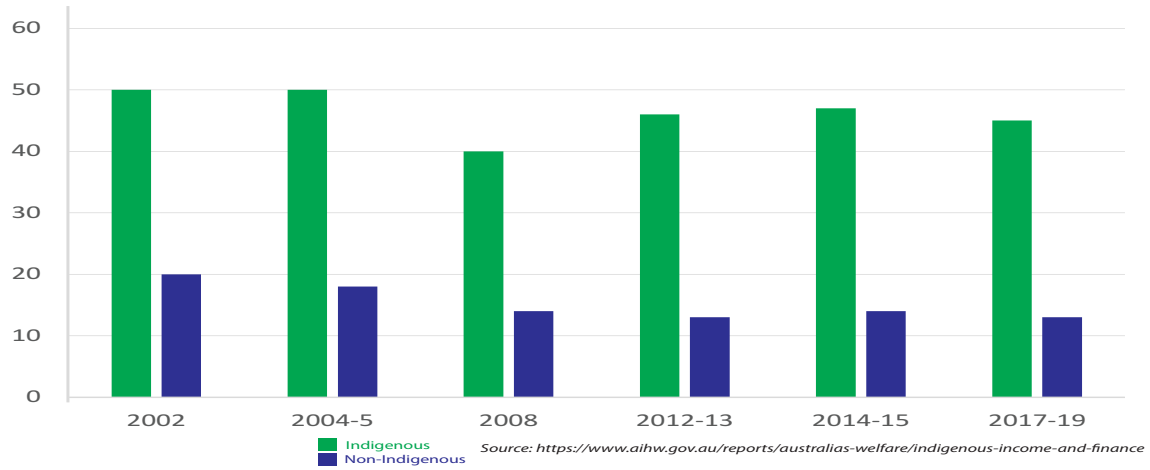
Some factors include the following:

- Aboriginal and Torres Strait Islander people are often disproportionately affected by structural barriers due to their particular circumstances or the disadvantages they experience.
- Aboriginal and Torres Strait Islander people face personal challenges and systemic and structural barriers and they have a higher prevalence of the personal risk factors associated with poorer outcomes in employment and wellbeing, and are more likely to have multiple risk factors.
- While income consistently decreases as people in Australia live more remotely, Indigenous Australians living remotely experience much lower average incomes than non-Indigenous Australians who live remotely and very remotely.
- Aboriginal and Torres Strait Islander students have somewhat lower school attendance rates. In 2019, the overall attendance rate for Aboriginal and Torres Strait Islander students was 82 per cent, a decrease from 84 per cent in 2014. The attendance rate for non-Indigenous students was 92 per cent in 2019.
- A positive contributor to growing Indigenous incomes is the growing proportion of Aboriginal and Torres Strait Islander 20–24 year olds completing year 12 or equivalent or above. It increased from 45 per cent in 2008 to 66 per cent in 2018-19. For non-Indigenous people, the proportion remained relatively unchanged (90 per cent in 2017-18).
- The proportion of Aboriginal and Torres Strait Islander 20–64 year olds with a Certificate level III or above or studying

increased from 26 per cent in 2002 to 50 per cent in 2018-19. The gap between Aboriginal and Torres Strait Islander people and non-Indigenous people remained steady over the period at about 25 percentage points.

- Aboriginal and Torres Strait Islander people contribute to the economy and community through employment in both general occupations and occupations that benefit from their unique skills and culture. Their employment choices are partly driven by a desire to support their family and community, which is a key part of their cultural identity, and this can influence their occupational choices and how they engage in paid employment.
- In 2018-19, about 16 per cent of Aboriginal and Torres Strait people aged 15 years or over reported being a victim of physical or threatened harm in the past 12 months. This proportion is about three times the rate for the total population aged 15 years or over.
- From 2000 to 2019, the imprisonment rate for Aboriginal and Torres Strait Islander adults increased 72 per cent. The daily average detention rate for Aboriginal and Torres Strait Islander youth remains about 22 times the rate for non-Indigenous youth.
- The proportion of the population with Government payments or allowances as their main source of personal income is much higher for Indigenous Australians. These payments are considerably lower than factor income. Chart 10.15 below shows this difference clearly.

Chart 10.15:
Proportion of persons aged 18–64 with Governement payments as main source of personal income



Gender inequality

The changing role of women in society since the 1970s (second wave feminism's arrival) has seen increasing numbers of women working in paid employment. In February 2022, women comprised 47.9% of all employees in Australia. Women make up just over 38% of all full-time employees, and 68.5% of all part-timers. The rate of female participation in the workforce is 62.1%, compared to the male participation rate of 70.4%. This means that, of all the women aged 15 years and over (and therefore of working age), 62.1% of them are either working or actively looking for work, compared to 70.4% of men of the same age range.

According to the Australian Government Workplace Gender Equality Agency (WGEA), 'Workplace gender equality is achieved when people are able to access and enjoy the same rewards, resources and opportunities regardless of gender,' and Australia has made considerable progress in recent decades. However, there is still a **'gender gap'** in the Australian workforce.

There are many consequences of the gender gap in the Australian workforce, but one of the most striking is the **gender pay gap** which confirms that women continue to earn less than men on average. It is calculated by the WGEA each year and shows the difference between women's and men's average weekly full- time equivalent earnings, expressed as a percentage of men's earnings. The August 2022 figures show that the national gender pay gap is 14.1% (having hovered between 15% and 19% for the last two decades.) This is despite the fact that women complete higher education at a higher rate than men.

There are many factors contributing to this continued pay gap including:

- Women are less likely to advance their careers as far as men. For example, women hold just under 18% of chair positions, and 31% of directorships, and represent about 19% of CEOs.
- Men have less access to family-friendly policies such as parental leave and flexible working arrangements that allow them to share responsibilities for child rearing. This means that many more women than men have interrupted careers and employment experience, further compounding their reduced career advancement and relatively lower earning capacity.

Luck

Some wealthy households have gained their fortunes through luck that is unrelated to good investment choices, inheritance, or any of the other factors referred to earlier. While this accounts for a very small proportion of wealthy households, the winnings earned from gambling for example (such as Tattslotto) is one factor that accounts for some wealth inequality.

Application Exercise 10p Discrimination in the workplace: real case studies

Case study 1: Geoff worked as a labourer in an engineering firm. Geoff said the people he worked with called him names because he is Aboriginal. He said they called him names such as "black", "dark", "half cast" and "coon". Geoff claimed his employer did not help him deal with the problems he was experiencing at work. Geoff decided to make a complaint to the [Human Rights] Commission.

When the Commission contacted the company, they said that the first time they were aware of Geoff's concerns was when he walked out of his job. The company said it had anti-discrimination policies in place. The company provided statements from some of Geoff's co-workers. The co-workers agreed they had called Geoff "black" or "dark", but said the comments were just a joke and that Geoff had laughed at the comments.

The Commission helped Geoff and the company to resolve the complaint. The company agreed to review and improve its anti-discrimination and harassment policies, to nominate harassment contact officers and hold regular meetings where staff could talk about discrimination issues. The company also agreed to pay Geoff $7,400 compensation for the hurt and humiliation he said he had experienced.

Case study 2: Ben is Aboriginal and worked as a cook in a small bistro. Ben claimed that while working in the bistro his supervisor made comments to him about his race that he found offensive. Ben said that his supervisor would say "Are all black c**** as dumb as you?"; "Can you pass me the 'Abocado'" and "Abo's want everything for nothing". Ben claimed that his male supervisor also sexually harassed him by making comments such as: "Whilst you're down there" and "I always knew you were gay". Ben made a complaint to the Commission. In the complaint, he said he had resigned from his job because of the way his supervisor had treated him.

The owner of the bistro said that Ben's supervisor denied discriminating against Ben because of his race and denied sexually harassing him. The owner said staff in the bistro teased and joked with each other and that Ben joined in some of this behaviour. The Commission helped Ben and the company to resolve the complaint. The owner of the company agreed to pay Ben $10,000 compensation and provide him with a Statement of Service to resolve the complaint.

Source: www.humanrights.gov.au/discrimination-aboriginal-and-torres-strait-islander-peoples-case-studies

Tasks:

1. **Using the case study relating to Geoff as an example, explain how discrimination at workplaces can result in unemployment.**
2. **Explain if there is likely to be a relationship between someone experiencing workplace bullying/ discrimination and their willingness to stay in the workforce.**
3. **Define hidden unemployment and discuss the possibility of Geoff becoming a member of the pool of hidden unemployed.**
4. **Using the case studies to illustrate, discuss the possibility of indigenous Australians earning less than other Australians even when they perform the same work.**
5. **Discuss the role of government in preventing workplace discrimination.**

Review questions 10.7

1. Explain why some wage and salary income earners receive very high income levels compared to others. Use demand and supply diagrams to support your explanation.
2. Define 'human capital' and explain why those people possessing a high quality of human capital are likely to earn higher incomes.
3. Explain why wealth inequality, or unequal ownership of the factors of production, contributes to income inequality.
4. Explain how higher unemployment and underemployment can contribute to greater inequality in the distribution of income.
5. Outline the types of unemployment that are more likely to contribute to inequality over time.
6. Explain how the rise of more insecure work (sometimes referred to as the 'gigification of employment) may contribute to inequality in income distribution.
7. Explain why unregulated markets are likely to achieve higher rates of economic growth compared to regulated markets but can also contribute to increased inequality. Use the example of the minimum wage to illustrate.

8. Explain how inheritance contributes to a more unequal distribution of income.
9. Explain why it is important to understand the ongoing effects of colonisation on First Nations peoples in order to understand the disparities of income and wealth between Indigenous and non-Indigenous Australians.
10. Outline three factors contributing to income and wealth inequality between Indigenous and non-Indigenous Australians.
11. Explain the difference between transfer and factor incomes and use the data in Chart 10.23 to explain how the main source of income contributes to income inequality between Indigenous and non-Indigenous Australians.
12. Explain how discrimination can contribute to a more unequal distribution of income.
13. Define 'gender pay gap', identify the current size of the gap, and describe the recent trend in the gender pay gap.
14. Explain one factor that contributes to the gender pay gap.

Application Exercise 10q:

For each of the situations below, determine how the income or wealth was sourced (e.g. via wages and salaries, transfers, inheritance etc.). For simplicity, assume each person is the sole income earner in their household and estimate which quintile their household is likely to fall within (1= lowest quintile and 5= highest quintile). In your notes, provide an explanation for your choices. The first one has been done for you.

Description	Income/ wealth source	Q	Explanation
James Poker receives annual dividends after investing the vast sum of money received in his rich father's will.	*Inheritance*	*5*	*Will be in the highest Q because James' rich father left him a vast sum of money*
Barry, an engineer, accepts a job in the mining industry developing technology to remotely control trains and trucks			
Cathy works in a well-known fashion retail outlet earning the minimum wage			
Thanh Duy wins $10m in a lottery and invests the funds in a term deposit generating $500,000 per annum in interest			
Colin has a mild physical disability that has prevented him from gaining employment. He has been unemployed and receiving benefits for 4 years			
Mary comes from a remote indigenous community in the Northern Territory and has only been able to find casual work (3 hours per week) in Melbourne. She also receives job search allowance			
Alistair Clarkson signs on as coach of the Kangaroos Football Club			
Ling is a plastic surgeon specialising in facial re- construction following traumatic events			
Henry left school at 16 and has been working as an unskilled labourer in the construction industry			
Hafiz has been a full-time teacher for 20 years and is at the top of the income scale in the profession			
Gennaro is an actor featuring in numerous amateur productions. He drives a taxi to provide him with enough income to pursue his passion for acting			

10.8 Causes of income and wealth inequality across the globe

When confronted with the evidence of inequality and poverty globally, students often as 'why?'. Why do there continue tWhen confronted with the evidence of extreme global income inequality and high rates of absolute poverty, students often ask 'why?'. Why do there continue to be poor countries? Why is global inequality so extreme in some instances? This section focuses on causes of poverty and inequality, with special attention to low-income countries, where the prevalence of absolute poverty remains extreme.

The reasons for inequality and poverty often vary from country to country, and the key factors listed below are not exhaustive and do not apply to all countries.

- **Limited productive resources** and **pressure on those resources**, including:
    - Labour: Low levels of education, poor health and high birth rates
    - Capital: Restricted savings, limited access to capital, and limited infrastructure
    - Land: Resource depletion through history and environmental degradation
- Inequities in the **global system of trade**
- The **lack of a role for women** in the government and economic systems of many countries
- **Corruption** and **government mismanagement**
- **High levels of indebtedness** where the debt has not been used for productive purposes

Many of the reasons for poverty listed above are interconnected and serve to reinforce each other. It is also the case that the causes of poverty may also become the effects of poverty, and further serve to reinforce poverty, as in the case of poor health and high birth rates, to be discussed below.

Productive resources are limited and in high demand

Economics is all about the allocation of resources. In many countries with high rates of poverty, productive resources are in relatively short supply when compared to the demands on those resources. Many of these countries lack productive capacity - they simply cannot make enough goods and services to satisfy the basic needs, let alone the wants, of their population, or generate enough income to satisfy those needs and wants by purchasing imports from other countries. The main reasons for lack of productive capacity are:

- **Inadequate Labour resources as a result of low levels of education, poor health, rapid urbanisation and high birth rates**
    - Low levels of education and high rates of illiteracy (the inability to read and/or write) can be common on the poorest countries. For example, Mali in Western Africa had an adult literacy rate of 31% in 2020.
    - Free public schooling is often not universally available (even at primary level)
    - Children often work (sometimes full-time) to provide necessary income
    - Higher levels of poverty means that potential labour is often undernourished and in poor health
    - All of these factors combine to lead to relatively **low rates of labour productivity**
    - Ultimately, this will result in a low level of **productive capacity** compared to what might be achieved if these problems were resolved.

- **Limited Capital resources due to restricted savings and limited infrastructure**
    - Unlike in richer countries where, as income grows over time, those with spare income can save some of it, and invest to produce more (the cycle of income and wealth), people living in poverty usually have only sufficient income to pay for the daily needs for survival.
    - Because saving is unlikely to be possible, opportunities for investment and wealth creation are limited.
    - Poorer countries experience this on a national level – the poverty trap was explained in detail in Section 10B.3 above.
    - A **lack of saving** and **access to capital** for investment is a key reason why so many poor countries remain poor, and the reverse is the case in richer countries where savings and capital for expanding productive capacity are more plentiful.

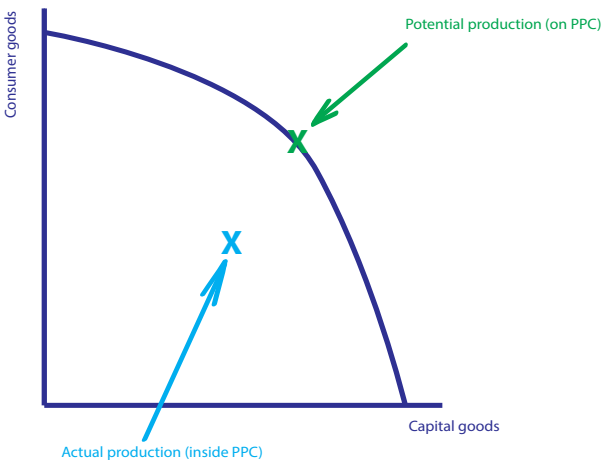
- Unlike in richer countries, where the money that is collected as tax by governments can be spent on the provision of services, or developing **infrastructure** like roads, rail lines, schools and hospitals, in poorer countries collection of taxes is harder (due to a lack of government infrastructure, a large informal sector and high underemployment).
- Lack of infrastructure serves to limit the country's productive capacity, because bad roads, or poor rail or port services also severely reduce the ability of businesses to operate productively.

- Limited Land resources due to historic resource depletion and environmental degradation

  - Historically, many countries with high rates of poverty are former colonies of European powers – having experienced **colonial rule**, meaning that a more powerful country takes political and economic control of another country or region. From the 1500s onwards, and peaking in the 1800s, large parts of the world were colonised by the large European powers, namely Spain, England, Holland, Portugal, Germany and France. The areas of the world impacted by colonialism included much of Asia, the Americas, Oceania and Africa.
  - Throughout colonisation (ending formally only mid-20th Century), European powers focused on extracting large quantities of natural resources from colonised nations – such as cotton, sugar, tea, exotic woods, spices and rubber, that could not be grown or extracted in Europe. These were shipped back to the European countries for **value adding**. Colonised countries were the source of natural resources and were not able to reap the rewards made from transforming the commodities into products for sale- rather solely a source of cheap primary products. In effect, the European powers limited the colonised nations from developing their own industries, because this would create competition and bring down prices for the colonising nations' products.
  - Enormous amounts of very valuable resources were extracted, leaving people living in those countries in a precarious economic position. Enormous economic benefits were gained by the European powers and colonialism set in place a pattern of resource extraction and **dependency** for colonised nations.
  - This economic structure persists post-colonialism, with many poorer countries persisting as locations for the extraction of raw materials.
  - Many poorer countries host large multinational mining corporations which extract enormous volumes of minerals for export.
  - Other poorer countries focus on producing **cash-crops** for export, due to a higher relative price for those exportable crops. This earns valuable export income for the country and farmers but can lead to increased hunger because of reallocation of resources away from production of food for local consumption.
  - A focus on monocultures of crop production and lack of regulation of mining operations exacerbates **environmental degradation**.
  - One example is the enormous global growth in demand for oil crops such as palm oil and soy, which has seen vast swathes of rainforest cleared through **deforestation** to make way for growing these crops. This destroys the habitats of local flora and fauna. The intensive farming also often degrades the land quickly, leading to increased poverty when the land starts to erode or ceases to be fertile, and worse flooding during the heavy rainfall common in these areas.
  - Many of the world's poorest people live in countries location relatively close to the equator. These areas of the globe have tended to suffer from a larger number of natural disasters than the more temperate regions of the globe (which is where most richer countries are located). With increased acceleration of **climate change**, there's been, and will continue to be, an increase in the incidence of extreme weather events - including droughts, extreme storms and cyclones. These will have an increasingly devastating effect on developing countries because of their extreme vulnerability.

You should recall from Chapter 1 that the negative impacts of limited productive resources is equivalent to saying that the actual output for these poorer, developing economies is well below their potential PPC.

Figure 10.13
Producing below potential in developing economies



Application Exercise 10r: Climate change and poverty

Climate change is currently reshaping our world and has been much in the news. The last five years have been the hottest in the modern record and global carbon dioxide emissions continue to rise.

For Australian students, the impact of climate change is ever more evident in rising average summer temperatures which bring blistering hot days and sleepless hot nights, along with the impact of the drought and early fire seasons along the east coast of the country. We are increasingly mindful of the impact of rising sea temperatures on our spectacular and unique Great Barrier Reef. As a dry continent, Australia is vulnerable to climate change, but unlike much of the world, we have the resources to combat some of the more extreme impacts of climate change and the adaptations required to live in a more hostile climate. The UN's Human Rights Council made explicit the link between climate change and poverty:

'Climate change will have devastating consequences for people in poverty. Even under the best-case scenario, hundreds of millions will face food insecurity, forced migration, disease, and death. Climate change threatens the future of human rights and risks undoing the last fifty years of progress in development, global health, and poverty reduction.'

When considering land resources as a contributor to poverty, climate change will become increasingly important. As many economists, activists and scientists have pointed out, the reality is that climate change is impacting, and will continue to impact, most those who have the least ability to deal with its effects. For example, in the 2022 Pakistan floods, more than the total population of Australia – 24 million people – were affected, with more than 3 million people displaced. The increased incidence and severity of natural disasters – floods, hurricanes/cyclones, droughts and storms – are all consequences of our rapidly changing climate. The poorest people in the world rely on agriculture to survive – and the capacity to grow crops is impacted by climate change. According to the World Bank, at 2 °C degrees of warming, 100-400 million more people could be at risk of hunger and 1-2 billion more people may no longer have adequate water.

The UN's special rapporteur on human rights and the environment classifies the human rights impacts of climate change as a 'climate apartheid' in which the rich would 'pay to escape overheating, hunger and conflict while the rest of the world is left to suffer.' Even in Australia, those most vulnerable are those without the resources to adapt to climate change – such as those living on lower incomes who can't afford to cool their homes on extremely hot days.

According to a recent study, those who are already the world's hungriest (living in countries with very low food security), are those the least responsible for climate change. The ten most food-insecure nations in the world generate just 0.08% of global carbon emissions. For context, emissions generated by a single US citizen in 2017 were equal to the emissions of 581 people in Burundi. Average Australian CO2 emissions per capita were 21.4 tonnes in the year to March 2019. The table below shows the data.

Food vulnerability and CO2 emissions, selected countries, 2017 [Source: World Economic Forum]

Climate and food vulnerability index rank	Country	CO2 emissions per capita (tonnes)	CO2 emissions per capita rank (out of 113)
1	Burundi	0.027	113
2	Democratic Republic of Congo	0.043	112
3	Madagascar	0.163	104
4	Yemen	0.443	90
5	Sierra Leone	0.173	103
6	Chad	0.062	110
7	Malawi	0.084	109
8	Haiti	0.321	96
9	Niger	0.116	107
10	Zambia	0.29	97

Some critics of the UN have pointed out that, while many wealthy countries, such as Australia, have high per capita emissions, their overall contribution to total global emissions is relatively low. For example, in 2020 Australia emitted 521,000 kilo-tonnes of CO2, which was one-twenty-seventh of China's emissions of 13.8 gigatonnes. Australia ranks 16th in total world CO2 emissions, responsible for 1.3% of the world's emissions. Even the United States emits only just over half the emissions of China.

Questions:

1. **Outline the expected impacts of climate change on the world's poorest people.**
2. **Describe how climate change is impacting Australia, and its likely future impact.**
3. **Explain what the UN means when it describes the human rights impacts of climate change as a type of 'climate apartheid'.**
4. **Examine the data in the table above. Based on Australia's March 2019 per capita emissions of CO2, how many times more emissions does an average Australian produce relative to the country in the table with the highest per capita emissions?**
5. **Describe Australia's relative global position as a contributor to the emissions that have brought about climate change.**
6. **Write a response to the following statement: Despite Australia's low overall contribution to global emissions, its high per capita emissions mean Australia must be a key player in the effort to combat climate change.**

Extension tasks:

- **Watch the short animated film 'Climate Change: Quick facts' created by charity, Mercy Corps: https://youtu.be/yseaPr-1so3s Collect five pieces of evidence that demonstrate the impact of climate change on the global poor.**
- **Choose one of the topics relating to climate change and poverty on the Mercy Corps website: https://www.mercycorps.org/articles/climate-change-affects-poverty Investigate the issue further. Share your findings with your classmates.**
- **What can be done? 2018 Nobel Prize for Economics, William Nordhaus described climate change as a 'Colossus that threatens our world' and the 'ultimate challenge for economics'. Use the Internet to investigate the potential economic responses to climate change. Choose one response and evaluate the costs and benefits of the actions proposed.**

Application Exercise 10s: Life as a '3rd World Farmer' can help build empathy

For many students in Australia, it is extremely hard (perhaps impossible) to imagine just how difficult life can be for people who make a living off the land in extremely poor countries.

The online simulation 3rd World Farmer is subtitled 'A game to make you think'. You will become a farmer in a very poor, natural disaster-prone and conflict-ridden country. The simulation lets you experience some of the hardships of farming in a poor country. As the developers clearly state, it is not precise in all details, but it is designed to be both educational and provocative.

Visit 3rd World Farmer: http://3rdworldfarmer.com/ and play the simulation.
Reflection: Write a 200 word reflection on your experience.
Questions

1. **What were some of the factors that you had control over that influenced your family's ability to provide for yourselves?**
2. **What were some of the unexpected events (over which you had no control) that negatively affected your ability to survive?**
3. **Do you feel the activity added to your sense of empathy and understanding for those who live in these situations in real life?**

Sovereign indebtedness

One contributor to inequality and poverty that is highly problematic in many poorer economies (such as many in Africa) is **sovereign indebtedness** – which refers to the build-up of debt incurred by governments (as distinct from the private sector) when government spending exceeds government revenue, resulting in a budget deficit that requires borrowing, some of which usually comes from other countries.

Borrowing and debt can be necessary for many countries to fund their economic development. All debt needs to be 'serviced', which means that the borrower must pay at least the interest on the debt and should also at some stage repay the **principal** (the amount originally borrowed). If debt is used for a **productive purpose**, and the borrower can afford to **service the debt**, debt serves a valuable function in the economy by allowing individuals, businesses and governments to bring forward expenditure and invest in large capital items that may improve productivity or output or quality of life over the longer term. If the debt is used to finance a project that will create a flow of income, this can then be used to pay off not only the interest, but ultimately also the principal itself. As was noted above, many poorer countries lack infrastructure, and debt can be used to build needed roads, rail and ports along with delivery systems for electricity and other necessary contributors to economic and human progress.

Like any form of debt, sovereign debt will only become a problem when the government struggles to make the necessary repayments. In Australia, the level of sovereign debt is relatively low by international standards, despite many years of Government budget deficits since the global financial crisis (GFC) of 2008 and the COVID-19 pandemic of 2020-21. But for the very heavily debt burdened poorest countries of the world the situation can become dire. The problem for many poor countries is that firstly, the money borrowed was not necessarily used to create more productive capacity and, secondly, that the debt itself grew to the point where large amounts of money that could be used for other purposes (such as education and transport that could help lift populations out of poverty) was instead being diverted into **debt servicing**. For these countries, the **opportunity cost** of their debt burden is enormous.

There are some truly staggering statistics about the size and effect of debt on the poorest countries in the world. One cited by Jubilee 2000 is that, in 2005/6, the Kenyan Government's budget for debt payments was as much as their budgeted spending on water, health, agriculture, roads, and transport combined.

Application Exercise 10t

Answer true (T) or false (F) to the following statements: Compare your responses with a classmate and be prepared to justify your choice.

Statement	T	F
Climate change will have the same effect on countries, no matter where they are located on the globe or their level of development		
Rising population levels means governments in poor countries can collect more tax revenue and use it to provide more services		
An adult literacy rate of 55% means that 55% of the adult population cannot read or write		
A lack of education in poor countries is a symptom as well as a cause of poverty		
Most developing countries have overinvested in infrastructure, and that is one reason they are poor		
Developed countries often have very large parts of the economy that are not monitored or taxed by the government		
Adult literacy rates tend to fall as income levels rise		
The relative price of soy beans grown for export would be higher than the price of potatoes grown for the local market in Paraguay		
All of the world's poor, developing countries, are former colonies of European countries		
The increase in growth of cash crops for export in developing countries has had only positive impacts on		

Inequities in the global system of trade

For many years, representatives of poorer countries at free trade negotiations have been highly critical of disadvantages for the developing world inherent in the current world trade system. Despite increasing free trade from the 1990s seeing lowered **tariffs**, governments in many rich, developed countries still provide large **subsidies** to domestic producers of agricultural products, sometimes accounting for billions of dollars. The reduction in cost of producing such products then means they can be exported at cheaper prices.

Since poor developing countries often rely on the export of agricultural commodities, they've highlighted that rich-country subsidies reducing product costs in richer countries suppresses prices on global markets, reducing poorer countries' capacity to earn income from exporting. People in poorer countries are also encouraged to import some food from large international companies, competing with local producers in poor-country markets. This can lead to increased **dependence on imports**, causing the country to be less able to pay its way in international transactions, and an increase in the country's current account deficit (the difference between the value of its income earned from overseas and what the country spends overseas).

A reallocation or resources in poorer countries from producing for local consumption to cash crops for export, such as soy, sugar, coffee and cocoa for chocolate has ongoing impacts on local communities. When developing countries do attempt to increase the value of their exports by value adding, for example by manufacturing, they face trade barriers such as tariffs and **import quotas**. Furthermore, because they have very little local manufacturing to start with, poor developing countries usually need to import much of the technology and machinery required to start up any businesses. All of these factors lead to increased **foreign debt** because of a rising current account deficit as the income from exports are outweighed by the payments for imports.

Finally, many large multinational companies that produce in developing countries are able to minimise the tax they pay on profits to local governments by manipulating the prices on transfers of products across international borders but within their own company (**transfer pricing**). Many argue that as a consequence, very little of the profit made in developing countries remains in those countries, instead making its way back to the shareholders of the companies, often located in rich, developed countries.

Application Exercise 10u: Investigating the global chocolate trade

One example of a commodity whose farmers receive a very small proportion of its final value is cocoa.

Although cocoa is one of the key ingredients in chocolate, the cocoa in a chocolate bar that may cost around $2 to buy at the shop would have yielded the grower around 16 cents. The majority of cocoa farmers are located in poor, developing countries in West Africa.

The rest of the cost of the bar is made by economic agents who are mostly located outside of the developing country where the cocoa is grown.

Visit the Chocolate Trade Game, to undertake an activity unpacking the global chocolate trade chain and its impact on the developing world: https://www.christianaid.org.uk/schools/chocolate-trade-game

The lack of a role for women in the government and economic systems of many countries

In recent decades, the levels of women's and girls' access to rights, health and education have improved significantly. For example in two-thirds of countries, boys and girls receive primary education at the same rates. There has also been increasing awareness of the need to empower women through increased social, political and economic equity and access to fundamental human rights like basic health, nutrition and education.
However, the position of women in many countries is alarming. For example:

- Women bear a disproportionate burden of the world's poverty, making up 70% of the world's poor - a fact that has given rise to the term '**feminisation of poverty**'.
- In many countries, women lack a role in decision making, holding only 26% of all seats in national parliaments.
- Women represent more than two-thirds of the world's illiterate adults.
- Women still dies in childbirth at alarming rates, with a woman in sub-Saharan Africa having a 1 in 200 chance of dying in childbirth (compared to in Australia with a rate of about 1 in every 33,000).
- Women are much more likely to face discrimination in accessing credit, and to be unemployed, underemployed or in insecure work.

The poor social and economic position of women globally has both economic and social consequence. Clearly, as human beings, we should all be concerned that women and girls suffer disproportionately from poverty, violence and the deprivation of their basic human rights.

But, as economists, the lack of a role for women contributes to ongoing poverty and unequal income distribution, as well as poor development outcomes for countries. Research clearly shows that lack of investment in and rights for women and girls puts a brake on poverty reduction and limits both social and economic development in many countries.

The World Economic Forum Gender Gap Report has, since 2006, traced progress in closing the gap in economic participation, education, health and political empowerment. According to its research, it will take another 132 years for the gap between men and women in each of those areas to be closed globally. Over the years, the WEF report has observed a correlation between improvement in closing the gender gap (improved position of women and girls in a society) and improved economic performance of economies. In short, the closer a country is to gender parity, the more likely it is to also experience higher average standards of living, and lower levels of poverty and income inequality.

Political instability

Political instability is a significant contributor to poverty and income inequality. For example, between 2012 and 2017, the conflicts in Syria, Libya and Yemen contributed to these countries' slipping down the HDI, due to significant declines in their life expectancy or economic setbacks. It will take years, if not decades for them to return to pre-violence levels of development. The Russian invasion of Ukraine during 2022 has interrupted wheat exports from one the world's largest wheat producers and exporters. Globally, for people living in poverty, the rising price of the commodity has been a disaster. The COVID-19 pandemic (and the global government responses) has been devastating for poverty reduction globally, and is considered in more detail in Application Exercise 10v below.

Review questions 10.8

1. Explain the link between education and economic development.
2. Explain why, despite having large potential workforces, labour productivity in many poor countries can be quite low.
3. Define the term 'value adding.'
4. Explain why some economic historians claim that the history of colonisation set in place a pattern of dependency for colonised nations.
5. Explain how the prevalence of subsistence agriculture in poorer countries limits the availability of capital for
6. investment and development.
7. Explain how the existence of a large informal sector makes it difficult for governments in developing countries to improve living standards.
8. Explain the link between provision of infrastructure in an economy and improvements in the country's economic development. (Refer to the poverty cycle/ poverty trap)
9. Identify reasons why natural disasters (and climate change more broadly) generally impact more severely on poor countries than on richer ones.
10. Explain why borrowing money can be a good economic decision for some individuals and countries.
11. Discuss how sovereign indebtedness can contribute to a more unequal distribution of income.
12. Explain the difference between the principal and interest of a loan and define the term 'debt servicing.'
13. Define the term 'opportunity cost' and identify the opportunity cost of the debt burden of countries facing high levels of sovereign indebtedness.
14. Define the term 'subsidy' and explain how subsidies in richer countries operate to disadvantage producers in poorer countries.
15. Explain how an increased focus on cash crops can improve living standards for people in poorer countries.
16. Explain how the increased focus on cash crops in poor, developing countries can create increased income inequality and environmental problems and how this can then worsen poverty.
17. Outline some statistics to describe the current situation of women globally.
18. What is meant by the concept 'the feminisation of poverty'? Provide some evidence to support the claim that poverty is 'feminised' around the globe.
19. The World Economic Forum asserts that *'People and their talents are among the core drivers of sustainable, long-term economic growth. If half of these talents are underdeveloped or underutilized, growth and sustainability will be compromised.'* With reference to this statement, explain the economic costs to a country if women continue to not be fully included in the economic system.
20. Explain how political instability and conflict can worsen global poverty.

Application Exercise 10v COVID-19 and global poverty

As was demonstrated in previous section, up until 2020, the rates of global poverty had been declining. Between 1990 and 2020, the number of extremely poor people fell from 2 billion (around 36% of the world's population) to just under 700 million. However, the trend was interrupted in 2020, when poverty rose due to the disruption caused by the COVID-19 crisis combined with the effects of conflict and climate change. The World Bank noted that 'decreased income, job losses, and work stoppages during the pandemic were especially damaging to poor households. Women, youth and low-wage and informal workers, especially those living in urban areas, were among the hardest hit.' It was expected 100 million people would be pushed into extreme poverty during 2020.

In addition, inequality rose both within countries and between countries, and this will have long-term impacts as the world copes with the lingering impacts of the pandemic, the war in Ukraine, and inflation. According to World Bank projections, between 75 million and 95 million additional people could be living in extreme poverty in 2022 compared to what would have been expected during that year, prior to the pandemic.

There are a number of key reasons why COVID-19 has reversed the trend in global poverty reduction.

- Many of the world's poorest lost formal jobs, and jobs in the informal sector (driving rickshaws, shining shoes, sorting rubbish) disappeared.
- People living in wealthier countries and sending remittances (payments) home to relatives in poorer countries lost their jobs, and the remittances dried up. Areas most affected are the Pacific, Central Asia and sub-Saharan Africa.
- Those who have moved from rural to urban areas for work lost their jobs and had to return to rural homes.
- Service jobs (driving, cleaning, cooking) ceased as economies locked down.
- Non-citizen workers often didn't receive any of the government benefits provided to support populations through lockdown (for example, in Australia, international students were unable to access JobKeeper or JobSeeker payments.)
- There has been minimal financial support from richer countries for poorer countries during the crisis. For example, although the IMF has overseen the distribution of emergency funds for richer to poorer countries, African finance ministers estimated it was less than one third of what had been lost by their countries during the crisis.
- While there's an agreement by the G20 to suspend some debt repayments for poorer countries, not all debt will be covered (as private debt is not included). Unless countries can achieve a pause on their loan repayments, funds will be unable to be reallocated to healthcare and social support.

Questions/tasks

1. **Outline four pieces of evidence that COVID-19 is likely to 'set back' the global march towards reducing poverty.**
2. **Explain two reasons why the world's poorest people are more likely to be severely affected by COVID-19 compared to those in richer countries.**
3. **Explain why the current level of support for the world's poorest countries from the developed world is likely to be insufficient to address the impact of the coronavirus economic downturn.**

10.9 Perspectives of economic agents on income and wealth inequality and poverty

As outlined earlier, governments and the broader community are keen to avoid extreme inequality and high rates of poverty. However, it is generally accepted that the pursuit of total equality, where everyone receives identical incomes, is also not desirable.

This is because there are real social and economic advantages to maintaining an economic system (or society) that promotes the existence of some degree of inequality. Indeed, the success of a market capitalist economy like Australia relies on inequality to provide the foundation for wealth creation and improvements in living standards over time. As noted in previous sections, quite a few of the causes of inequality in income distribution and poverty are in fact features of a market capitalist system. These include the fact that those who are able to earn higher incomes through their use of the resources (capital, human, land) available to them are able to retain those higher incomes, and over time, those higher incomes can be saved and provide a foundation for wealth creation.

Some economists argue that the best way to boost economic growth in a country, and therefore living standards (including the living standards of the poorest- those with a small share of the income pie, and those living in poverty), is to minimise taxes on businesses and high-income earners. It is argued that a low tax burden encourages people to work harder (because they keep more of every dollar earned) and offers the incentive to take entrepreneurial risks.

The basis of this **trickledown theory** is that, by encouraging business and wealthy households to invest, greater volumes of goods and services can be produced at lower prices, resulting in increased employment opportunities for middle and lower income earners, which eventually increase their purchasing power. Therefore what appears to be the implementation of a more inequitable system may actually be beneficial for all citizens because it is able to raise everyone's material living standards and reduce absolute poverty.

With respect to the **social costs** of achieving equity by reducing income inequality, they are relatively limited when compared to the social benefits, which suggests that, from a social (as opposed to economic) perspective, inequality and/or poverty is costly and the pursuit of equity in the distribution of income is a worthy goal. This highlights the fact that the costs of achieving equity (or equality) are overwhelmingly economic in nature. Nevertheless, social costs of achieving equity include the following points:

- If policies are implemented whereby incomes are substantially redistributed to the point where they are close to being equal, there may be fewer people who are motivated to be more creative or entrepreneurial. While equity can lead to economic costs (see below), there may be additional social costs in the form of fewer people being incentivised to invest in **human capital**. If this happens, it can reduce the nation's stock of **social capital** and have negative implications for the quality of lives of others. For example, there may be less incentive for individuals to undertake costly investment in human capital (e.g. a university degree) if the government has implemented highly re-distributive policies (e.g. punitive taxes on high income earners). This is likely to result in fewer doctors, entertainers, sportsmen/women, artists, etc. to the detriment of society.
- Similarly, there may be fewer individuals pursuing greater income and wealth, which would otherwise provide them with a constant goal and a feeling of making progress. This could have provided a certain degree of happiness or satisfaction that had the potential to generate positive benefits for others.

- For those with a higher level of income and wealth, feelings of resentment, and a sense of unfairness, may grow as governments act to redistribute what those people perceive as their 'hard-earned' income, or the wealth which they are 'entitled to' by virtue of the efforts of themselves or their antecedents.

The idea that people are motivated to be more entrepreneurial (and arguably possibly more creative) in a market capitalist economy creates huge economic benefits for a country which cannot be captured by an economy seeking to achieve total equality (e.g. a more socialist economy). The incentive to work harder, develop skills and take financial risks provides the underpinning for all of the economic benefits that will accrue to any economy that permits some degree of inequality in income distribution. Accordingly, the excessive pursuit of equity might prevent the economy from enjoying a number of economic benefits. Therefore, if a society were to actively pursue policies that lead to significant redistribution of income and wealth, it may result in the following **economic costs**.

- Equity can result in the quality of the nation's **human capital** being lower than would be the case if inequality occurred. This is because inequality provides greater incentives for individuals to improve their skill levels (e.g. via education and training) because they are able to keep a larger proportion of the increased economic benefits (income) they receive from their improved skill development. With better skills, labour productivity levels across the economy will increase. Similarly, individuals will have greater incentive to work harder and longer, further boosting productivity levels. (Those who are critical of this idea would suggest that in fact this is based on the assumption that people make their decisions about education and improving their human capital purely on the basis of income earning potential. In response, they claim that in fact many humans are motivated by other factors such as a desire for more rewarding work, a desire to help others, or a desire to improve themselves, without attention to the material rewards.)
- The quality of the nation's **physical capital** might be lower than would be the case if inequality occurred. This is because the potential to retain more of the profit made would create a more intense desire to maximise profits by entrepreneurs and those investing in businesses. As entrepreneurs seek new profit opportunities, it leads to greater investment in new technologies which ultimately lead to higher levels of capital productivity over time.
- Equity can result in lower levels of labour and capital **productivity**, compared to the productivity levels that could occur if greater inequality existed (for the two reasons outlined just above).

To the extent that the pursuit or achievement of equity results in lower levels of productivity over time, this will be costly to the economy for the following types of reasons.

- Lower productivity adds to the costs of production, which leads to higher prices and **inflation**.
- Higher inflation rates will lead to a deterioration of Australia's international competitiveness, reducing the demand for net exports (exports minus imports) and aggregate demand, which negatively impacts on **economic growth**.
- The decrease in international competitiveness will negatively impact on Australia's ability to export and may lead to an imbalance between what we earn from overseas and what we spend overseas, leading to higher indebtedness

to other countries and the potential problems this could create.

- As economic growth is impaired, the demand for labour is likely to fall, reducing meaningful employment and/ or adding to **unemployment/underemployment**, which increases reliance on government welfare payments.

Many of the arguments above have focused on efforts to redistribute income to become more equal and how these may have unintended economic and social consequences. There appear to be very few social or economic benefits of the existence of poverty in a society. While the avoidance of absolute poverty is incontrovertibly good, there is some debate about whether or not the criteria to measure relative poverty in Australia (the Henderson Poverty Line as a proportion of the median weekly wage) are appropriate and should provide the basis for making judgements about the adequacy of income support measures. This is considered later in this chapter when examining the effects of the temporary COVID supplement on welfare benefits and the reduction in relative poverty during 2020 and 2021.

As noted with regard to the potential benefits of unequal income distribution, the potential benefits of unequal wealth distribution also often relate to the incentives and rewards for effort, along with the use of accrued wealth and assets to improve innovation, encourage investment in productivity-enhancing capital stock and human skills. Consequently, many of the arguments used to justify wealth inequality are therefore very similar to those outlined above in relation to income inequality and its benefits. However, evidence from more and more global studies show that rising inequality in wealth both domestically (across Australia) and globally is having undesirable effects. This is considered in App Ex 10w below.

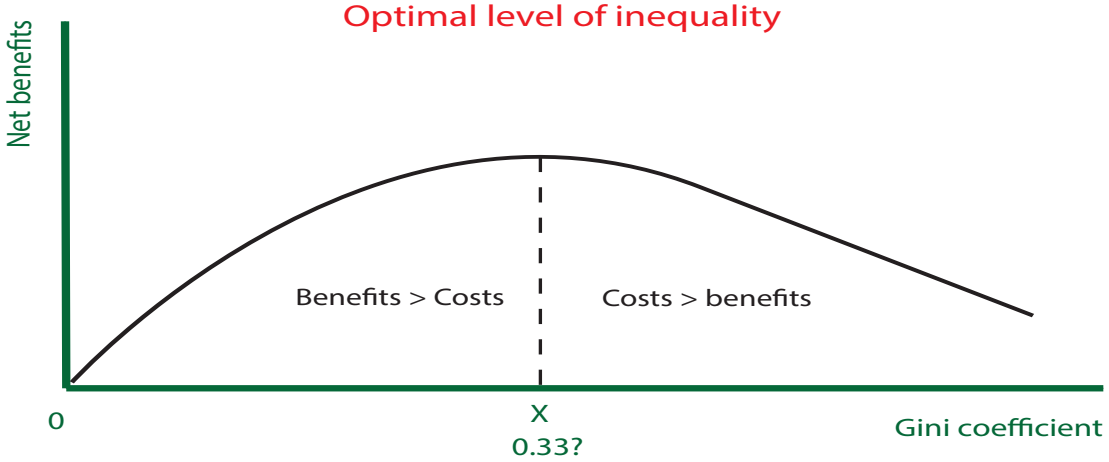
So what is an 'optimal' level of equality and/or inequality?

While some level of inequality does indeed result in some economic benefits for a country, it is important not to conclude that governments actually target inequality in order to derive economic benefits. As outlined at the start of this section, inequality is a by-product of our market capitalist economy and governments are willing to tolerate what can be loosely referred to as an **optimal level of inequality**.

It has been suggested that an optimal level of inequality is where, at the margin, the total benefits of inequality (both social and economic) just outweigh the total costs. Hypothetically, any movement away from this optimal level of inequality (in either direction) will result in a deterioration of national living standards. If inequality increases, then the costs of inequality will start to outweigh the benefits, and if it falls, the costs of greater equality will also start to outweigh the benefits. Precisely where this 'optimal level' rests, is not clear and is not agreed on, either by the government or the broader community. However, it is likely that the optimal level of inequality resides within a range of 0.3 - 0.4 for the Gini coefficient. Over time, the government will rely on society, via the democratic process, to voice any concerns about the existing levels of inequality.

This hypothetical optimal level of inequality can be viewed diagrammatically in Figure 10.14 below. It shows how the net benefits (total benefits minus total costs) of inequality increase as the size of the Gini coefficient rises to a point (point X) before starting to fall. At low levels of inequality (before point X), the advantages (or benefits) outweigh the disadvantages (or costs) and society will experience additional net benefits by allowing inequality to increase. However, beyond point X, inequality has reached the point where the additional problems it causes for society (i.e. the costs or disadvantages) become so great that they start to outweigh the additional benefits. Therefore, point X can be regarded as the optimal level of inequality. From that point, any further increases in inequality will make society and the economy worse off.

Figure 10.14
Optimal level of inequality



Application Exercise 10w: Should global wealth be radically redistributed?

In recent years there has been increasing emphasis on the potential downsides of extremely unequal global wealth distribution (and within countries). One commonly cited statistic is that the $1 trillion made by America's billionaires (651 of them) in the first nine months of the pandemic would have funded a $3000 payment to every single American. The data earlier in this section also shows the extent of wealth inequality globally (and in Australia).

This evidence has led to a debate about whether it is time to tax the world's wealthiest people much more heavily in order to radically redistribute the world's wealth. Usually, this is based on a desire to expand social safety nets and invest more in social and physical infrastructure (education and healthcare for example). Thomas Piketty (author of Capital in the Twenty-First Century) has called for a 'confiscatory' global tax on inherited wealth. The table below summarises some of the arguments in favour of and against undertaking radical action to address global wealth inequality, for example through a high wealth tax.

ARGUMENTS IN FAVOUR	ARGUMENTS AGAINST
Highly unequal wealth contributes to further income inequality, and even higher wealth inequality under an unregulated market system. It won't correct itself without government intervention to redistribute wealth.	There is no guarantee that any increased tax revenue gained from a wealth tax will be used efficiently or effectively, or even benefit those most in need. It may simply be used to fund more wasteful government spending.
High levels of wealth inequality lead to highly unequal opportunities, and it is almost impossible for someone to rise in the wealth rankings unaided. A higher tax on the wealthy doesn't harm their life chances, but that money can be used to aid the life chances of the poor.	As poverty increases, the effect of inequality on economic growth becomes negative and significant, so the world should focus on poverty alleviation policies rather than redistribution of wealth.
Higher concentrations of wealth lead to a global elite that is not just richer but also more powerful. Hence, economic inequality fuels corruption and undermines democratic values.	The world's wealthy already pay a lot of tax (their 'fair share') and implementing something like a 'wealth' tax might only encourage them to hide their assets.
The wealthy use more income and wealth to buy luxury lifestyles rather than reinvesting in the economy – therefore the idea of trickle down economics doesn't work. In fact, taking some of that wealth (and income) from the rich and giving to the poor will help grow the economy through more spending.	Taxing the wealthy at lower rates allows them to reinvest their wealth into other entrepreneurial efforts, leading to economic growth, more jobs and higher incomes for workers (trickle down economics).
Even in wealthy countries, infrastructure is crumbling, and social services are not working as they should. For example, public education and health are both underfunded relative to need. Taxing billionaires much more would provide more funds for government to pay for these services.	Most of the world's richest people got rich by starting their own businesses and are self-made entrepreneurs. They are also much 'richer' on paper and do not have the kind of liquid wealth to fund a high wealth tax.
The typical income-earning taxpayer pays about 25-30% of their income in taxes (including all taxes), but billionaires pay a smaller proportion of their income in taxes on average.	Redistributing wealth away from the rich would result in them having less money to use for philanthropy, and philanthropy is generally used to aid the poor. Philanthropy can also be more efficient at redistribution and addressing the needs of the poor because there is less bureaucracy involved.
The ultrawealthy 'grow rich in their sleep' – they don't actually 'work hard' to grow their wealth, it largely grows by itself (e.g. wealth of Australia's billionaires grew by 50% on average during the pandemic. Conversely, wage and salary employees have to 'work hard' for their income, and have struggled in recent years.	The rich earned their wealth, and so they should be able to keep the same percentage of it as those who were not so successful. To tax them higher than others undermines meritocracy, and can lead to social and political turmoil and less effort on the part of both workers and the wealthy.
Growth in the return to capital (e.g. return on investments in businesses) has outstripped the return to labour for many years now, even though labour productivity has improved. Workers are simply not getting a 'fair share' of what they are contributing to creating.	Increasing government transfer payments funded through a wealth tax would just encourage more reliance on government and less self-reliance and enterprise on the part of those who stand to reap the benefits of their hard work and risk taking.
Australia's millionaires are 'undertaxed'. In 2018-19 there were 15,385 people who had a total income of over $1m (just 0.1% of the income earners in Australia). But 55 of them paid no net tax (mostly through making large donations and spending enormous amounts of money on accountants and tax lawyers).	Government efforts to redistribute wealth (and income) can empower governments in general, creating a more invasive government that diminishes the liberties of citizens. Such redistribution is better left to the 'impartial' market.
Of those earning more than $1m in 2018-19, 55 of them managed their affairs in a way such that they paid no tax	Global poverty has fallen in recent years, and the world's poorest are better off now than they were 50 years ago.

Choose arguments from the table above, and research it further. Find economic and social data to support your position, then use it to contribute to a class discussion or debate on the following proposal: 'Wealth of over half a billion dollars should be taxed at 10% per year'.

Review questions 10.9

1. Outline what is meant by the 'trickle down theory'.
2. Describe two social costs from pursuing or achieving equity in the distribution of income and wealth.
3. Describe three economic costs from pursuing or achieving equity in the distribution of income wealth.
4. Discuss whether the government targets a particular degree of income inequality.
5. Explain how some inequality can spur innovation and contribute to economic growth.
6. Explain why country governments may be more determined to reduce income inequality and less focused on reducing inequality in the distribution of wealth.
7. Explain what is meant by the optimal level of inequality.

10.10 Economic responses to address poverty and income and wealth inequality

Budgetary policy initiatives in Australia

Budgetary policy (also called **fiscal policy**) typically refers to changes in the spending and/or taxation decisions of the federal government. It is the main policy used by the government to both achieve greater equity in the distribution of income and a more efficient allocation of the nation's resources.

Manipulations to the federal government's budget can have powerful and long-lasting effects on equity and income distribution, given the sheer size of government revenue and expenditure. On the revenue side, total government tax receipts amount to approximately $550 billion, with $380 billion coming from income taxes (primarily personal income tax and company taxes) and $133 billion coming from indirect taxes, such as the GST and excise taxes on fuel, tobacco and alcohol. [There is an additional $39B worth of non-tax revenue earned by the government that includes sales of some goods and services, as well as interest and dividends.] On the expenditure side, in 2022-23 the government spent $630 billion on a vast range of goods and services, with the majority of this money spent social security (35%), health (18%) and education (7%).

Australian governments actively seek to minimise the incidence of absolute poverty and reduce inequality by supporting low-income households in a number of ways.

Targeting unemployment

Much of government spending on training and education is designed to improve the nation's productivity and efficiency, which can then help to improve Australia's international competitiveness and ultimately boost the demand for labour and employment in the long term. However, there are a number of targeted training programs that are designed to reduce the incidence of **long-term unemployment** and **hard-core unemployment**. Given that people experiencing this type of unemployment are likely to be members of low-income households, government re-training or up-skilling helps to reduce the level of inequality once these people find employment and move from low transfer incomes (unemployment benefits or pensions) to higher factor incomes (e.g. wages or salaries).

The Australian Federal Government announces new skills and training measures in most years through its annual budget. For example, in the 2022-23 Budget, the Government announced the **ReBoot Initiative**, which involves the investment of $52.8 million to support up to 5,000 disadvantaged young Australians to develop employability skills, providing a pathway to employment. They also announced $49.5 million over two years to provide an additional 15,000 low and fee free training places in aged care courses under the JobTrainer fund.

The provision of cash benefits

Governments provide lower income groups with direct cash benefits (such as **unemployment benefits**- which in Australia are currently called 'JobSeeker') that enable them to purchase goods and services, particularly the basics of food, clothing and shelter. These payments are designed exclusively for low-income households and the government uses **means testing** to ensure that higher income households do not take advantage of any government welfare. For example, higher income households cannot take advantage of transfer payments like the aged pension and the family tax benefits. By international comparisons, Australia has one of the best targeted welfare and transfers systems in terms of direct **transfer payments** such as unemployment and disability support pensions.

Without the receipt of this form of income, a number of Australians would be receiving minimal factor incomes (e.g. income in the form of wages) and would be unable to afford even the most basic goods and services. For those without

family assistance or support, they would most certainly be living in absolute poverty and some would be forced to resort to crime to 'make ends meet'. These payments help to reduce the number of Australians living in absolute poverty, although their role in reducing relative poverty is more debated, as is clear from Application Exercise 10x below.

Application Exercise 10x: Poverty, poverty lines and benefits during COVID-19

Early in the COVID-19 Pandemic, the Australian government introduced strict lockdowns. Concurrently, in March 2020, it announced a number of direct income support payments to ensure that households were still able to support themselves while businesses were closed down and many were unable to work.

The government anticipated that it would be almost impossible for those unemployed to continue to actively look for a job during the lockdown, or start a job if they were able to find one. Consequently, the government decided to loosen the criteria for receiving the unemployment benefit (which it renamed as 'JobSeeker'), and also provided a temporary 'Coronavirus supplement'. The most recent ABS data available indicated that there was an increase of 46.8% in spending on unemployment support payments ($9.5 billion) over the 2020-21 financial year. The impact of the introduction of the Coronavirus supplement on JobSeeker payments is summarised in the table below.

Column A Household size and composition	Column B Pre-Coronavirus supplement JobSeeker benefit (weekly $) (pre-March 2020)	Column C JobSeeker benefit with Coronavirus supplement (weekly $) (March -Sept 2020)	Column D Relevant Henderson Poverty Line (weekly $)
Single (no children)	282.85	557.85	445.40
Single parent, 1 child	306.00	581.00	601.20
Couple (no children)	510.80	785.80	630.91

As you will recall from earlier in this chapter, the Henderson Poverty line is calculated as a fixed proportion of the average household disposable income, and therefore changes regularly. It is the amount a household needs to be receiving in income to not be below the poverty line – living in relative poverty. The amounts for the pre-Covid supplement, with Covid supplement and Henderson Poverty Line (HPL) are shown in Columns B, C and D for each of the household types shown in Column A.

Many civil society groups observed that the changes to the payments lifted a large number of Australians out of poverty for the first time in many years. They made the following statements regarding the period:

- Despite the economy moving into a recession, the Coronavirus supplement lifted incomes for single people on JobSeeker above the poverty line.
- Poverty among people in households on JobSeeker fell by four-fifths from 76% in 2019 to 15% in June 2020.

As the economy began to open up again, the government gradually reduced and then ultimately completely removed the Coronavirus supplement. In April 2021, it announced a permanent increase to the JobSeeker benefit of $25 per week. The table below shows the current rates of the JobSeeker benefit (from March 2022).

Column A Household size and composition	Column E Current JobSeeker benefit (weekly $)	Column D (updated) JobSeeker benefit with Coronavirus supplement (weekly $) (March -Sept 2020)
Single (no children)	321.35	495.66
Single parent, 1 child	345.50	669.03
Couple (no children)	585.30	702.09

While many civil society organisations applauded the increase, they remained critical that the benefit remained low, and many recipients continued to live in relative poverty.

Tasks:

1. Identify the impact of the Covid supplement on household incomes during 2020. Support your response with data.

2. Identify which benefit recipients were living in relative poverty

- **a.) before the introduction of the Covid supplement**
- **b.) after the introduction of the Covid supplement**
- **c.) with the new rate of JobSeeker (as of March 2022)**

3. As noted above, at the time the government announcement of a permanent increase of $25 a week to the JobSeeker rate, many organisations stated it still wasn't high enough. Campaigns such as #RaisetheRate argued in favour of a minimum payment of $70 a day.

- **a.) Calculate how much a single person with no children, receiving JobSeeker, would receive each week if the rate were raised to $70 a day. Compare this amount to the current rate of payment for JobSeeker.**
- **b.) Identify whether or not a rate of $70 a day would lift a single person receiving JobSeeker out of relative poverty. Support your conclusion with evidence.**

4. Use the Internet to research the current rate of the Minimum wage for an adult working full time in Australia. Write a statement comparing the minimum wage with the JobSeeker payment.

5. Use the Internet to research arguments in favour and against raising the JobSeeker rate permanently so that all recipients are living above the poverty line. Create a T-table (with one side summarising to arguments the in favour and the other side summarising the arguments against raising the rate) and use it to respond to the following prompt: Unemployment benefits in Australia are insufficient to provide a dignified standard of living to those who cannot find a job.

(Adapted and updated from an idea published by Sally Jackman in VCTA Compak, July 2020).

The implementation of a progressive income tax system

A **progressive tax system** is one where higher income earners pay a higher percentage rate of tax compared to lower income earners. It is designed to tax higher income earners more heavily than low income earners, so that the overwhelming tax burden falls upon those with a greater capacity to pay. In Australia's case, very low income earners (those earning less than $18,200) will pay no tax at all, which means that their marginal rate of tax is zero. In contrast, a high income earner (one earning more than $180,000) will be paying a marginal rate of tax of 45%. This type of tax system works effectively to redistribute incomes from high to low income earners and ensures that the burden of paying for the Government's spending programs falls primarily on higher income earners.

To illustrate how the progressive tax system works to improve equality, we will simplify it by focussing on two hypothetical income earners, Chaz and Bambi, both aged 28. Chaz has been unable to find full time work for several years but manages to earn $350 per week doing manual labour for a friend who is a builder. His annual income is therefore $18,200 ($350 X 52 weeks). Bambi on the other hand has been gainfully employed for several years as a solicitor with a high profile law firm. She has managed to impress the partners of the firm and is currently on an annual salary (including bonuses) of $468,000 per year (or $9,000 per week).

Reference to the tax rates outlined in Table 10.20 reveal that Chaz's income is so low that it is equal to the tax-free threshold of $18,200. This means that he will pay zero income tax (and he does not pay the Medicare levy). Bambi's income on the other hand is well above the top tax bracket and she will be required to pay $190,627 in income tax (including the 2% Medicare levy) to the Federal Government. This equates to just under 41% of her income (i.e. an average tax rate of 41%). It is important to note that the higher tax rates only apply to the **marginal income**. That is, they only apply to income earned above the cut-off level (the threshold) for the new tax rate.

Table 10.20: Tax rates 2022-23

Taxable income	Tax on this income
0 - $18,200 (tax free threshold)	Nil
$18,201 - $45,000	19c for each $1 over $18,200
$45,001 - $120,000	$5,092 plus 32.5c for each $1 over $45,000
$120,001 - $180,000	$29,467 plus 37c for each $1 over $120,000
$180,001 and over	$51,667 plus 45c for each $1 over $180,000

The above rates do not include the Medicare levy of 2% Source: www.ato.gov.au

The tax liability for Bambi has been calculated in the following way:

Tax on first $180,000 earned	$ 51,667 (taken from Table 10.20)
Tax on the next $288,000	$129,600 ($288,000 X 45%)
Medicare levy of 2% of taxable income	$ 9,360 ($468,000 X 2%)
	$190,627

In this simple example, Bambi faces the entire burden of paying for government services, which includes the provision of education, training and job support services for unskilled low-income earners like Chaz, as well as the provision of a host of cash and non-cash benefits that further support lower income earners like Chaz. This includes additional income support and/or the provision of subsidised housing, transport concessions and other items, which will be discussed in more detail below.

The use of proportional taxes

Proportional taxes on income are those where the 'rate of tax' stays the same regardless of how much income is earned. This means that income earners will pay exactly the same proportion of their income in tax. The best example of a proportional income tax in Australia is the company tax, currently set at a rate of 30% of the income (profit) made by larger companies (those with turnover more than $50m per year). While very large companies (like Qantas, Telstra and the banks) will pay much higher amounts of company tax to the government compared to medium sized companies (with turnover more than $50m but much less than the billion dollar turnover of the largest companies), they will still pay the same percentage of their income in tax. This contrasts with the personal income tax system which is designed to be progressive, forcing higher income earners to pay a proportionally larger share of their income in tax and allowing low income earners to escape with a proportionally smaller burden (or no burden at all in the case of very low income earners.)

Compared to personal income taxes, Australia's **company tax** system was not designed with 're-distribution' in mind.

Rather it was seen as a vehicle for raising tax revenue which could then be used to fund the provision of many goods and services that society requires, including the provision of defence, public order/safety, national security, as well as general infrastructure (e.g. roads, dams and bridges), hospitals, schools, as well as subsidies/grants to various organisations (including businesses).

The rate of company tax has fallen significantly since the mid-1980s, when it was as high as 49% of the profits earned to its current rates of 30% (for large corporations) and 25% (for smaller corporations). The government argues that a lower company tax rate will attract investment, both from domestic sources and from abroad, which in turn will lead to a long term increase in aggregate demand and economic growth. It argues further that this will help to create jobs and incomes and alleviate poverty. The extent to which the fall in the company tax rate does lead to a net increase in employment and a net reduction in poverty remains to be seen. Many less conservative commentators argue that a lower company tax only serves to perpetuate inequality as the largest companies will tend to pocket the windfall as extra profits for its (relatively wealthy) shareholders.

Study tip

The company tax rate is 30% for all companies with annual turnover of more than $50m. All other (smaller) corporations face a lower tax rate of 2.5%. While the current Government was keen to reduce the company tax rate to 25% for all corporations, this was rejected in the Senate (the upper house of federal parliament).

The provision of non-cash benefits to lower income households

At a federal (and state) level, the government will also provide a number of **non-cash benefits** that target low income households and provide them with a greater capacity to use existing income to purchase both basic goods and services as well more discretionary items (i.e. non-essential items) that support their standard of living. Examples of the non-cash benefits include the provision of subsidised public housing, transport and health concessions, energy rebates and concessions. As these items are provided to lower income households either free of charge, or at a heavily subsidised rate, they are an effective means by which the government redistributes incomes in Australia (in this case the **social wage income** of such households are raised by access to the free or subsidised goods or services).

In the case of public education and public health, they can be enjoyed 'free of charge' by both high and low income earners and are examples of **merit goods** - goods that provide benefits to those who don't pay directly for them, but that would be undersupplied were they not being subsidised. However, high income earners are more likely to send their children to private schools and will also opt to seek medical care from the private hospital system. In this respect, even the provision of these services helps to redistribute incomes as it is primarily the middle to lower earners (rather than high income earners) that enjoy the benefits.

Application Exercise 10y: Calculating income tax

Adam Sapple and Emma Royd have just graduated as doctors from the University of Melbourne and have commenced working at one of the major hospitals. They will be earning $65,000 each in their first year. However, Adam also receives $1,000 per week in the form of interest income that he earns from a $1 million term deposit he inherited from his grandmother. Their close friend, Tim Burr, is still in his final year of study for his degree, but works part-time earning $350 per week as a local furniture maker.

Personal tax rates 2022-23

Taxable income	Tax on this income
0 - $18,200 (tax free threshold)	Nil
$18,201 - $45,000	19c for each $1 over $18,200
$45,001 - $120,000	$5,092 plus 32.5c for each $1 over $45,000
$120,001 - $180,000	$29,467 plus 37c for each $1 over $120,000
$180,001 and over	$51,667 plus 45c for each $1 over $180,000

The above rates do not include the Medicare levy of 2% Source: www.ato.gov.au

Using the tax scales provided above, answer the following questions.

1. **Explain why the personal tax system is considered progressive.**
2. **How much income (before income tax) will Adam earn in his first year of work?**
3. **Calculate the amount of tax Adam and Emma will pay excluding the medicare levy.**
4. **Calculate the amount of tax Adam and Emma will pay including the medicare levy.**
5. **Calculate how much tax Tim will pay over the course of the year.**
6. **Calculate the average rate of tax for Adam, Emma and Tim.**
7. **Discuss whether it is fair that Adam pays more tax than both Emma and Tim.**
8. **Describe how the government could use the money raised from these income earners to further improve equity in the distribution of income.**

Exempting basic goods from the regressive effects of the Goods and Services Tax (GST)

While income taxes in Australia are characterised by their 'progressive' nature, the most common indirect tax, the Goods and Services Tax (GST) – which is a tax on consumption - is regressive in nature – meaning that the proportion of income paid in tax rises as income falls. It means that the tax burden of regressive taxes falls more heavily on those on lower incomes compared to the burden on those on higher incomes. The **regressive effects** of the GST are a result of it being imposed on the consumption of products purchased by all households, rather than on the incomes of those purchasing the products. GST is levied at 10% of the pre-GST price of any item that is liable to have GST paid on.

The best way to understand the regressive impact of indirect taxes, such as the GST, is through a worked example. Consider a haircut for which the consumer pays $50 pre-GST. With the added GST, the price of the haircut is now $55. The table below shows the relative impact on proportion of income paid in tax for the item for a low-income earner compared to a high income earner.

Table 10.21: Regressive effects of GST

	Weekly income ($)	Haircut price pre-GST ($)	GST paid on haircut ($)	GST as a % of income
Low-income earner	750	50	5	0.66%
High income earner	7,500	50	5	0.06%

As the table above shows, the proportion of income paid in tax by the lower income earner is much higher than that paid by the higher income earner. It is important to note that the amount of tax being paid is not increasing as income falls, but rather the proportion of income paid in tax.

A problem with many indirect taxes is the regressive effects that occur when the tax is applied to goods that are either necessities or addictive in nature. While it can be argued that a higher-income earner is likely to have haircuts more often, and maybe even pay a much higher price for their haircut (and therefore pay more GST – since it is calculated as proportion of the product price), when it comes to necessities, this is not the case. Those who live on lower incomes tend to spend a much larger proportion of their income on necessities and therefore cannot be avoided or even reduced by very much.

It is useful to note that while the vast majority of indirect taxes are regressive, such as the GST, fuel and tobacco excise, taxes on alcohol and the (now repealed) carbon tax, there are examples of indirect taxes that have progressive effects. The luxury car tax (currently at 33%) is an example of an indirect tax imposed almost exclusively on higher income earners. Given that higher income earners are the ones most likely to purchase luxury cars (e.g. those costing more than $71,849 unless they are especially fuel efficient) the tax burden falls almost exclusively on these income earners which helps to achieve a more equitable distribution of income.

The exemption of basic goods from GST helps to reduce the overall tax burden for lower income earners compared to higher income earners. By allowing necessities like bread, milk, education, health and many pharmaceuticals to be purchased 'GST free', it reduces the regressive effect of the tax, since those basic necessities make up a large proportion of the income of many lower income earners.

Application Exercise 10z: Changes to the distribution of income

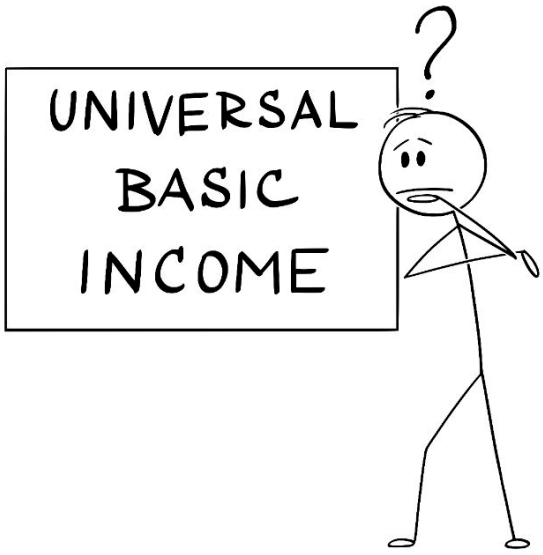
In Australia, the distribution of income has changed over many years, as evidenced by changes to the Gini-coefficient (GC) on income since 2009-10. However, the GC is only measures one aspect of equity (i.e. the way incomes are distributed across the various income earning groups in society). The government uses its budget to not only achieve a more even spread of incomes earned in the economy, but also to target other elements of 'equity' to ensure that lower income groups do not fall into absolute poverty and are able to enjoy a relatively dignified standard of living. The table below has been compiled from data found in the most recent ABS publication 'Household Income and Wealth, Australia, 2019-20'.

HOUSEHOLD INCOME INDICATORS Australia, , 2009-10 to 2019-20			
Economic Indicators – Income	**2009-10**	**2017-18**	**2019-20**
Gini coefficient for (equivalised) disposable household income	0.329	0.328	0.324
Gini coefficient for gross household income	0.428	0.439	0.436
Mean weekly (equivalised) disposable household income	$1034	$1094	$1124
Mean weekly gross household income	$2058	$2310	$2329

Answer the following questions.

1. **Distinguish 'gross household income' from 'disposable household income'**
2. **Outline why the Gini coefficient for disposable household income is lower than the Gini coefficient for gross household income.**
3. **Use the statistics above to support the contention that the distribution of income has become more even since 2009-10.**
4. **Explain how the government could change personal income tax rates to reduce the size of the GC in the future.**
5. **Describe two ways that the government could use the 'expenditure side of the budget' to achieve a more equitable distribution of income.**
6. **Apart from changes to personal income taxes, describe two ways that the government could use the 'revenue side of the budget' to achieve a more equitable distribution of income.**

A Universal Basic Income



A **Universal Basic Income (UBI)** is a system whereby all citizens in a country receive a fixed amount of income each month. The receipt of the income is not dependent upon the person contributing to the productive process – and hence the amount would be paid to each eligible person (usually each adult) regardless of whether they are employed, unemployed, or not in the labour force. In other words, recipients don't have to 'do anything' to receive the UBI, and there would be no limitations on how it could be spent. The UBI payment would also be sufficient for people to live on – to provide recipients with enough to live on and have a basic (preferably dignified) standard of living in the society in which they live.

So why is the UBI becoming more popular?

The UBI has become increasingly popular as income inequality has risen, and there has been a rise in insecure work, often as a result of advances in technology. Those who support the idea of a UBI argue that one consequence of further technological advancement will be more and more people finding themselves replaced by 'machines' or 'robots' as their jobs are automated. Increasingly, people will find it hard to find sufficient reliable work in some industries in order to sustain themselves. There is an expectation that this will continue to worsen the inequality in the distribution of income, as more and more of the income generated by the economy will be received as a reward to capital, rather than labour. Implementing a UBI is seen by advocates as a way of providing those who do become 'structurally unemployed' (as their labour is replaced by innovations or technology) with the capacity to find a new or better job, or retrain, rather than simply accepting much lower paid jobs.

Proponents also cite the fact that its universal nature means that a UBI avoids the current political unpopularity of some 'welfare' programs because it removes the idea of there being 'deserving' versus 'undeserving' recipients. They also note that, because there are no conditions to the payment, it also provides no disincentive to working, because people get to keep the full payment regardless of any additional income they receive (unlike current welfare programs where benefits are reduced for each dollar that recipients earn from working.)

How might UBI affect income distribution?

Unlike traditional welfare programs, like the ones operated in Australia (i.e. our transfer payments system as operated by Centrelink), a UBI is much simpler – with no need for imposing monitoring and eligibility. This is another argument proponents make in its favour – it is much less costly to administer. This is because it has no mutual obligation for the cash transfer and therefore compliance does not need to be monitored. It also means that benefits can be provided quite promptly without the need for complex assessment processes.

As considered throughout this chapter, a lack of sufficient consistent income is a significant factor in income inequality and poverty, and the consequences of poverty and extreme income inequality are very significant both economically and socially. A UBI would place a 'floor' under the income of all members of a society. The economic insecurity brought about by the COVID-19 pandemic and global recession have given more force to the arguments. And if the extent of automation predicted by many does occur, the UBI may ultimately be the only form of income available for many people.

Rutger Bregman, author of Utopia for Realists is one of the leading proponents of a UBI. He argues it will provide the kind of freedom for workers that they currently don't have:

> ***'Basic income all about the freedom to say no. That's a privilege for the rich right now. With a basic income, you can say no to a job you don't want to do. You can say no to a city in which you no longer want to live. You can say no to an employer who harasses you at work… that's what real freedom looks like.'***

Has a UBI been used in any countries?

There have been a large number of small-scale trials in specific regions or towns of many countries – in order to give governments a sense of the effects of the approach prior to any larger-scale rollouts which would costs billions (or even trillions) of dollars.

The approach of each small-scale trial has been very different. Quite often it involved a group of randomly-selected people who were already in receipt of some form of benefit (unemployment benefit) being provided with a basic benefit but with no criteria, no obligations and guaranteed to continue for a specified period (e.g. a couple of years) - regardless of any other income received. These kinds of trials have been conducted in Finland, California and Germany. The key feature of these programs was that they removed any welfare obligations such as a requirement to actively seek work.

One very large, and highly ambitious, UBI program has been conducted in Kenya. It involves 20,000 recipients in 200 rural villages receiving a basic income each month for 12 years (commencing in 2016) – at a rate of income that is above the basic level required to sustain oneself in Kenya. It is supported by a US-based not-for-profit organisation and is being monitored by a group of economists – who are assessing the outcomes of the project. They are wanting to monitor whether the criticisms of UBI – that it creates a disincentive to work and encourages consumption of demerit goods – are valid or whether the benefits spruiked by its proponents – improved social outcomes, improved education attendance, improved health outcomes – do in fact result.

Review questions 10.10

1. Define budgetary policy.
2. Outline how the government can use its budget to reduce unemployment.
3. Explain how equity is improved when the government successfully reduces the incidence of unemployment.
4. Define a progressive tax system and explain why it helps to achieve equity in the distribution of income.
5. Explain why a person earning $18,200 is not required to pay tax.
6. Define proportional taxes and identify the most common form of proportional taxes used in Australia.
7. Outline how a lower company tax rate might help to improve equity over time.
8. Explain why some people have reservations about the ability of lower company tax rates to improve equity.
9. Define the Goods and Services Tax (GST) and explain why the exemption of some goods from GST is designed to reduce its regressive effects.
10. Explain how the luxury car tax can help to achieve a more equitable distribution of income.
11. Outline the key features of the UBI, by categorising them in terms of the following 3 key features: unconditional, universal, and adequate.
12. Explain why those who support the idea of a UBI consider it an 'idea whose time has come.'

10.11 Global efforts to reduce poverty and inequality

Foreign aid

Foreign aid is often a source of funds and support that will help to achieve the actions that can be taken to address the problem of poverty in developing countries. For many of us, when we think of how developing countries might address poverty and lack of economic development, our first thought may very well be the provision of foreign aid. Foreign aid occurs when governments or individuals in richer, developed countries provide money or other forms of assistance to poorer, developing countries, with the hope of promoting economic development and improving the living conditions of their citizens.

Foreign aid exists because of recognition that, for many countries, the factors holding them back from economic development would be insurmountable without external assistance. There is also recognition that it is through no fault of their own that life is so miserable for people born into a life of poverty and deprivation in developing countries. It is a sign of our recognition of our common humanity and our unwillingness to tolerate that level of suffering and inequality that we direct a certain amount of our economic resources towards foreign aid.

Australia's foreign aid

Foreign aid can be given by **governments** of foreign countries, either directly from one country government to another country's government (bilateral aid), or via large international coordinating agencies like the World Bank, the UN Development Program, UNICEF, or the World Food Program (multilateral aid). The official name for overseas aid of the type offered by the Australian Federal Government is **Official Development Assistance (ODA).** This is a useful acronym to be aware of if you are looking at statistics on a website such as the World Bank. Some of this aid is provided directly by government agencies; however, increasingly the Australian government is choosing to outsource the provision of foreign aid via private (for-profit) contractors. In recent years, the proportion of ODA delivered by such contractors has risen to approximately one-quarter of all foreign aid spending.

Foreign aid can also come from the private sector, through **non-government organisations (NGOs),** to which private citizens in richer countries directly donate. Some of the most well-known not-for-profit agencies operating from Australia are Medicins San Frontiers (Doctors without borders), World Vision, Oxfam, Save the Children, and the Red Cross. Some of the money used by these NGOs is gained from donations from private individuals and companies in the private sector. However, many of them also provide programmes that are funded by the Australian Federal Government but provided by the NGO themselves in a form of partnership

Common forms of foreign aid

Many Australians may assume that the foreign aid (ODA) that the Australian government gives through the Department of Foreign Affairs is a series of cash grants to the governments of developing countries, which can then be used in any way they choose. Foreign aid to poor, developing countries can come in a number of forms. Firstly, it may be provided as **loans**. One limitation of loans for the poorest of countries is the necessity to repay/service the loans and the additional burden this creates.

Aid can also be provided in the form of **grants** that are simply the transfer of money between one country and another, with no expectation of repayment. These are commonly in the form of **bilateral aid**, directly from one country government to another country. It can include delivery of goods and services, including humanitarian relief after natural and human-made disasters like droughts and wars, building health clinics and schools and immunising children.

One other area that Australia is involved in is providing programmes directly through Australian companies, or providing **technical assistance and capacity building in developing countries**. Poor countries often do not have well-developed governance systems, and they also often need technical training and skill development. In Australia's case, this can be through things like building capacity in local institutions by training staff such as teachers or agricultural managers, improving management cultures and providing development advisers in the field to help support policy development and reform.

Australia's Asia Pacific focus

Australia is located, geographically, in the middle of one of poorest regions of the world –the Asia Pacific region. It is for this reason that the Australian government focuses its aid work in that region. As you can see from the figure in Application exercise below, Australia is increasingly concentrating its resources on the Asia Pacific region. Complete Application exercise 10DD to find out what ODA Australia gives, where it goes, and why and to reflect on the importance of Australia's overseas aid.

Application Exercise 10aa: Where Australia's official aid (ODA) goes, and why:

In the 2022-23 Budget, the Australian Federal Government allocated $4.549 billion dollars to Overseas Development Assistance (ODA), which was up slightly from $4.335 billion in 2021-22. As the Australian Council for International Development (ACFID) noted, however, almost half a billion dollars of this amount was temporary spending specifically designed to address issues around the recovery in the Pacific from the COVID-19 pandemic.

This amount represents only 0.2% of Australia's Gross National Income (GNI) (or 20 cents in every $100). The ACFID also noted that while this proportion is unchanged from recent years, the proportion will fall to 0.18% in 2023-24 according to the forward estimates in the most recent budget papers. Interestingly, many surveyed Australians estimate Australia's foreign aid spending as being much, much more than this – closer to 16% of GNI!.

The most recent figures represent a longer term cut to foreign aid - both in monetary terms, and as a proportion of our national income. For example, in 2011/12 ODA represented 0.33% of GNI. Of particular note is the dedication of a significant proportion of the most recent spending ($1.85 billion) to the Pacific region. The government has emphasised its continued focus on the Pacific Step Up – discussed in more detail below.

Australia's ODA directly to individual countries includes funding for many different programmes. These include: immunisation programmes (Pacific island nations); targeted support for girls and women (Afghanistan); improving policing and national security forces (Papua New Guinea); providing school materials (Burma); programmes to improve agricultural productivity (Cambodia); providing treatment and medicine for people living with HIV/AIDS (Papua New Guinea); and also paying for peace keeping forces, such as the UN Mission in Timor-Leste.

Nevertheless, since 2016/17 Australia has spent an increasing proportion of its aid budget on 'aid for trade'- a program focused on helping developing countries to address their internal constraints to trade. These might include cumbersome regulations, poor infrastructure and lack of workforce skills. This focus is based on a belief that countries can only achieve strong and lasting growth by participating effectively in international trade. This was a major shift in focus of the aid program to investing in the drivers of economic growth.

There is also evidence to show that Australia itself benefits from giving ODA. By promoting development and good governance in our neighbours, Australia helps to protect itself from the impact of disease, instability and violence that can occur as result of extreme poverty. Economically, Australia earns an estimated $130 billion in exports from countries that receive our aid.

.

Why the Pacific Step-Up?

Very few Australians would be unaware of the rising influence of China globally. As part of its 'One Belt, One Road' initiative, often shortened to just Belt and Road, China has been focusing on extending its economic influence globally through providing infrastructure support to developing countries – with a notable focus on pacific island nations. In 2017, China spent US$4 billion on aid to Pacific countries for the year. This has since fallen, but the country continues to focus on funding infrastructure such as ports, airports and roads.

China's growing influence in the Pacific did not escape the notice of the Australian Government, and in launched the Pacific Step-Up in 2016 with a $2 billion infrastructure bank for the Pacific, extra embassies in the region, and a defence force training team focused on the Pacific. It also increased 'labour mobility' – to open up possibilities for Pacific islanders to fill gaps in Australia's labour markets (which the government suggests will reduce poverty via increased remittances to those countries).

Since the money came from the existing aid budget, critics claimed it resulted in the government 'stepping down' from supporting other parts of the world – including in Asia, which has long been a major recipient of Australian ODA. Others have observed that the shift of focus is in line with a recent trend to focus on aid that would be in Australia's national interest – that would help Australia in the medium to long run by ensuring a stable region that is developing economically.

The Pacific is a needy beneficiary of ODA. The region suffers from the remoteness of many nations, and their small size means they have high costs for offering services and offer little opportunity for economies of scale. They also have high unemployment rates and minimal natural resources and limited opportunities for earning income – usually limited to tourism, fisheries, mining and remittances from nationals living and working in other countries. The region is also being highly impacted by climate change, especially because of the influx of salt water in water tables and the increased incidence of extreme weather events.

Examine the table below and then complete the tasks that follow.

Australian bilateral aid allocation, selected countries and regions		
Country/region	**2012/13 $ million**	**2022/23 $ million (est.)**
Papua New Guinea	491.7	479.2
Indonesia	578.4	255.7
Solomon Islands	239.4	103.1
Vietnam	150.4	57.2
The Philippines	128.7	63.4
Pakistan	96.4	8.7
Timor-Leste (East Timor)	127.1	73
Afghanistan	201.7	50
Country/region	**2012/13 $ million**	**2022/23 $ million (est.)**
Pacific	1170.9	1067.3
South-East and East Asia	1321.2	1032.3
South & West Asia	525.3	305.1
Africa & the Middle East	465.0	90.7
Latin America & the Caribbean	41.8	1.5
Gender equality initiatives	NA	65
Contributions to multilateral organisations (e.g. UNDP, Refugees, COVID-19 response)	NA	1327.3

Questions/tasks:

1. What percentage of GNI does the Australian government commit currently (2022/23) to ODA?
2. How does the current percentage of GNI committed to ODA compare to the percentage in 2011/12? And the forecast level of 2023/24?
3. Consider an individual whose gross annual income was $100,000. Calculate how much money that individual would be donating to charity each year if they gave the same proportion of their income as the government plans to give in 2022/23.
4. Based on your answer to Question 3 above, do you consider the current ODA budget for Australia a sufficient amount? Obviously there is no right or wrong answer here, but provide reasons for your opinion.
5. Examine the allocation of aid in the table. Based on this information:
   a. Indicate which country was the largest recipient of Australian aid in 2012/13 and the country that will be the largest recipient of Australian aid in 2022/23.
   b. Identify the region of the world where most of the major recipients of Australian aid are located. Provide evidence to support your answer.
6. What is meant by the newly-introduced focus on the Pacific Step-Up. Outline how recent Chinese behaviour in the region has contributed to the change of focus of the Australian government.
7. Consider whether Australia's national interest (benefits of aid to Australia) should be taken into consideration in the allocation of aid.
8. Reflecting on the data you have examined in this task, give two examples of allocations of aid that Australia makes that would be in Australia's 'national interest'.
9. Examine the changes in the allocation of aid between 2012/13 and 2022/23 in the table. Describe the changes and explain some reasons why these changes may have happened.
10. Australia announced in 2016/17 that it would phase out bilateral aid to China. Based on what you know about recent Chinese economic history, explain why you think Australia has phased out aid to China over the last four years.

Extension task

Indonesia is one of Australia's closest neighbours. Between the mid-1980s and 2011, Indonesia more than halved the proportion of its population living in 'extreme poverty'. Australia has been a key provider of overseas development assistance (ODA) to Indonesia for the last 40 years.

Investigate the role of Australian foreign aid to Indonesia in recent years, and write a one- to two-page report outlining:

- the reasons behind Australia's provision of ODA to Indonesia
- Indonesia's current income classification according to the World Bank
- how much foreign aid Australia has given to Indonesia in the past and its plans for future ODA to Indonesia
- three key spending initiatives in Australia's recent support for Indonesia
- any recent notable successes achieved through Australia's foreign aid to Indonesia
- your overall evaluation of whether Australia's foreign aid to Indonesia has been a good use of the Australian Government's scarce resources. Conduct a brief cost-benefit analysis of the trade-off involved.

How much foreign aid is enough?

For more than three decades, the richer, developed-country members of the United Nations have continued to promise that they would commit a minimum of 0.7% of their GNI annually to overseas development aid. The 0.7% of GNI target was agreed to because it was seen as the minimum amount of money required from richer countries to meet the Millennium Development Goals (discussed below) and halve extreme poverty. Official Development Assistance as a percentage of GNI, shown in Table 10.22 below, tells a different story. As at the end of 2021, only five countries had met the target of allocating 0.7% of GNI to ODA.

Table 10.22: Official Development Assistance as % of GNI, selected countries 2021

Country	Ranking, ODA % GNI	ODA as % of GNI	ODA US$ millions
Luxembourg	1	0.99	539
Norway	2	0.93	4 673
Sweden	3	0.92	5 927
Germany	4	0.74	32 232
United Kingdom	9	0.50	15 814
Canada	13	0.32	6 271
New Zealand	17	0.28	681
Australia	21	0.21	3 444
United States	23	0.18	42 311
Korea	25	0.16	2 855
Slovak Republic	28	0.13	151

Source: OECD, http://webnet.oecd.org/oda

According to the OECD, in 2021, global aid was US$178.9 billion. For many years, the United States was by far the world's largest donor country. However, in 2016, a study revealed that China had overtaken the USA. The vast majority of China's aid is for infrastructure, rather than humanitarian programs. However, China's aid data is not published formally, and so actual amounts can be hard to trace. A 2017 study by AidData estimated that China had given or loaned out about US$350bn in aid between 2000 and 2014. Then in 2021, AidData released a new report showing that China averages $85 billion of 'development finance' each year – generally in the form of concessional loans. In terms of dollar amounts committed to ODA in $US dollar terms, Australia ranks thirteenth in the world, but as the table above shows, is much lower in terms of percentage of GNI committed to ODA.

Application Exercise 10ab How much foreign aid is enough?

Examine the data provided in TABLE 10.22 above and complete the tasks that follow.

1. **Explain why the UN believes it is important that all richer, developed countries commit 0.7% of GNI in ODA.**
2. **Which countries have reached the target of 0.7% of GNI in ODA? In which region/s of the world are these countries located?**
3. **Compare the % of GNI amount and the raw $ amount of ODA for the countries below and discuss whether it is more important to give a larger dollar amount of ODA, or a larger percentage of GNI in ODA.**
   - **Australia**
   - **USA**
   - **Germany**
   - **Sweden**
   - **New Zealand**

Review questions 10.11

1. Define the term 'foreign aid'
2. Explain the difference between unilateral and multilateral aid provided by the Australian government.
3. Identify three NGOs that operate out of Australia.
4. Explain how foreign aid from Australia is more than just cash grants to developing country governments.
5. Explain how Australia can and does benefit from giving foreign aid.
6. Provide three reasons why Australia focuses its foreign aid on the Asia Pacific region

Application Exercise 10ac: Should charity begin (and stay) at home?

One question that is sometimes asked about foreign aid is 'Why would one country choose to give money to another country, for nothing obvious in return?' When the Australian government announces its decisions on foreign aid allocation each year in the budget, there is often outrage expressed in the Australian community. Many people suggest that a wealthy country like Australia was shirking its responsibilities and being 'stingy' by not increasing its spending on aid. On the other hand, there is always quite a lot of comment on webpages and in the media expressing the opinion that Australia should focus its spending on solving problems within our country, rather than giving money to be spent in other countries. The same arguments are made in all developed countries and ultimately comes back to the core problem of relative scarcity and the choices we make about how best to allocate our scarce resources.

Task A: Cost-benefit analysis
Undertake a cost-benefit analysis of Australia's decision to reduce its foreign aid spending in recent years. [See Section 1.7 of Chapter 1 for a refresher on how to conduct a cost-benefit analysis.] Steps include:

- Compile a list of benefits of the decision and attempt to place a monetary value on each benefit.
- Compile a list of costs and attempt to place a monetary value on each cost.
- Calculate a benefit-cost ratio (BCR) and outline what this number represents.

OR
Task B: A class debate on increasing Australia's foreign aid budget to 0.7% of GNI

Step 1: List the economic arguments in favour of and against increasing Australia's aid budget to the suggested level.
Step 2: As a class, list all of the groups potentially interested in or affected by a decision to increase the aid budget as outlined. These could include, but not be limited to:

- A government official in Solomon Islands* or an advisor from the IMF or an advisor from the World Bank
- A senior economist or an aid worker, working in Papua New Guinea* or a teacher in a Fijian* primary school
- A doctor who works in a public hospital in Solomon Islands* or a farmer in Papua New Guinea
- An unemployed young person who lives in the Timor Leste* capital, Dili
- The Prime Minister of a country that has decided not to offer aid to Fiji* due to fears about corruption
- A young anti-poverty activist in Melbourne, who believes not enough is being done
- An Australian small business owner who is angry at small business being neglected in favour of 'overseas charity'
- An Australian recipient of JobSeeker who is finding it hard to make ends meet on the current payment, and believes it needs to be raised to lift people like her out of poverty
- A representative of the Chinese government, who is in Solomon Islands to offer increased infrastructure funding for the country (She believes loans for development rather than aid is the way to go.)

** Important Australian foreign aid recipient countries*

Step 3
Allocate the positions to members of the class in pairs or groups of three. Discuss the perspective of your stakeholder, and what economic and moral arguments they can use in the debate. Undertake some brief research on the Internet if needed. You could research the arguments in favour of foreign aid and criticisms of foreign aid.
Step 4
Reconvene as a class, and undertake the debate, allocating adequate time for each stakeholder to put their point across and ask (and be asked) questions. Your teacher may wish to adjudicate or appoint a student to perform this task.

Application Exercise 10ad: Strategies to reduce poverty and equality

We have elaborated on many of the key reasons for extreme income inequality and persistent high rates of poverty across the globe. This task requires you to choose one of the following strategies for addressing global income inequality/addressing global poverty and produce a presentation to inform an audience on your chosen solution.
Ensure your presentation includes the following:

A. An explanation of how the problem contributes to income inequality or global poverty (including data)
B. An outline of the proposed solution
C. Arguments in favour of the proposed solution – how it is likely to help improve income inequality or reduce poverty, including, if possible, evidence and examples of where it has been successful
D. Arguments against the proposed solution – how it could have unintended consequences, or perhaps it's been tried in the past and proved unsuccessful (again including evidence and data.)

Possible topics:

- Improving access to capital, investment and infrastructure to allow countries (and their people) to escape the poverty trap.
- The 'Tobin' Tax or the 'Robin Hood' taxes – recommendations for taxes on short-term financial transactions where those transactions do not contribute to wellbeing but are designed to take advantage of global exchange rates. The tax revenue would be used to support international development and reduce global poverty.
- Spending on education (including the global universal provision of primary education) or health initiatives.
- A Universal Basic Income introduced in the poorest of countries, funded by the UN or other global agencies.
- Improving the global position of women through ensuring girls have access to basic education, access to sexual and reproductive health (family planning) and rights and increasing the number of women in national parliaments.
- Promoting access to micro-credit programs, especially for women.
- Improving fairness in the global trade system, to benefit poorer countries by removal of tariffs and subsidies (especially on agriculture) in richer, developed nations (including the Cairns Group initiatives)
- Addressing climate change as an issue most affecting the world's poorest people.
- Reducing corruption, promoting democracy and improving economic management.
- Promoting debt forgiveness and debt relief, whereby the unsustainable debts of the world's poorest countries - the Heavily Indebted Poor Countries (HIPCs) - are cancelled by global organisations, on the proviso that money saved on debt servicing be redirected towards alleviation of poverty (including the Drop the Debt and Jubilee 2000 campaigns, and Make Poverty History activism from the mid-1990s and early 2000s).

10.12 Multiple choice review questions

1. Which of the following is not a return to factors of production for their contribution to the business sector?
a) Wages and salaries
b) Rent
c) Transfer payments
d) Interest

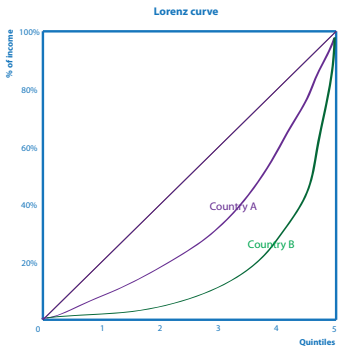
2. Which of the following represents the largest source of household income?
a) Government transfers
b) Wages and salaries
c) Interest and dividends
d) Profits from unincorporated enterprises

3. The largest source of household net worth (wealth) in Australia is
a) Property
b) shares
c) superannuation
d) bank deposits

4. Attempts by the government to achieve a more equal distribution of income could lead to all of the following except:
a) A higher Gini coefficient
b) Lower quality human capital
c) Reduced incentives for human effort in work
d) An increase in unemployment

5. In relation to the distinction between income and wealth, which of the following statements is incorrect?
a) Wealth is measured at a point in time, whereas income is measured over a period of time
b) Income is distributed more unevenly than wealth
c) Wealth helps to create income
d) Income helps to create wealth

6. When the Gini coefficient becomes larger it indicates that:
a) The distribution of income is becoming more unequal
b) More people are receiving higher incomes
c) Less people are receiving higher incomes
d) The distribution of income is becoming more equal



7. In relation to the adjacent Lorenz curves, which of the following statements is incorrect?
a) Country A has a more equal distribution of income
b) Country B is more likely to have an unequal distribution of wealth
c) Country B's Gini coefficient is likely to be smaller than country A's
d) Country B is likely to have a less progressive income tax system

8. In relation to the Henderson Poverty Line, which of the following statements is false?
a) As Australia's standard of living rises, the Henderson Poverty Line also rises.
b) The Henderson Poverty Line represents a fixed proportion of average disposable household income.
c) A household receiving income that places it at the HPL in 2022 would only be able to buy the same basket of goods and services as a household living at the HPL in the 1980s.
d) The Henderson Poverty Line is a measure of relative poverty, but not absolute poverty.

9. According to the data in the table below, which of the following statements can be made about the distribution of wealth in Australia between 2009-10 and 2019-20?

Gini coefficients – Household Net Worth (wealth) 2009-10 to 2019-20, Australia						
	2009-10	2011-12	2013-14	2015-16	2017-18	2019-20
Gini coefficient	0.602	0.593	0.605	0.605	0.621	0.611

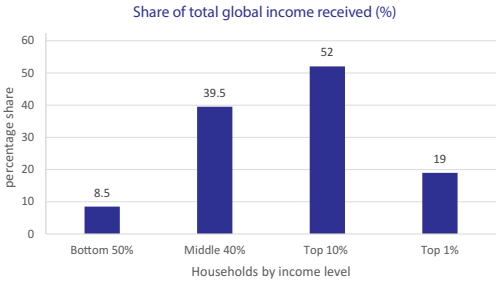
a) The distribution of wealth has become more equal over the time period shown.
b) The distribution of wealth has become more unequal over the time period shown.
c) The Lorenz curve for wealth distribution will have moved closer to the 45 degree line over the time period shown.
d) The share of wealth owned by those in the bottom quintiles will have risen relative to the share of wealth owned by those in the top quintiles.

10. Which of the following is unlikely to be considered a social cost of inequality?
a) People living in absolute poverty or relative poverty experience a sense of helplessness or despair
b) An increased incidence of mental health problems
c) Inequality of opportunity can lead to intergenerational poverty
d) Productivity increases as people become more entrepreneurial

11. Which of the following factors is least likely to be responsible for the inequality of income distribution in Australia?
a) The differences in talents and skills of individuals
b) Inheritance
c) Unemployment
d) Australia's tax system

12. In the construction of the Human Development Index, which of the following factors would have a different effect on a country's ranking compared to the other three?
a) A rise in life expectancy
b) A rise in average years of schooling
c) A rise in the infant mortality rate
d) A rise in Gross National Income (GNI) per capita

13. According to the data provided in the chart to the right:
a) One percent of the world's population received a larger share of the total global income than the poorest 50% of people.
b) Ten percent of the world's population owned 52% of the world's wealth.
c) The poorest 8.5 percent of the world's population received less than half the world's income.
d) The Gini coefficient for global income distribution would be quite close to zero.



14. Which of the following is most likely to be considered a benefit of some inequality?
a) The helplessness or despair that may be experienced by those living in poverty
b) An increase in social unrest or anti-social behaviour, such as crime
c) The financial cost to governments
d) A rise in efficiency or productivity

15. Australian governments exempt some goods and services from the GST because the GST is
a) A flat tax
b) A regressive tax that results in a higher tax burden for lower income earners
c) A progressive tax that results in a higher tax burden for higher income earners
d) A proportional tax that results in a higher tax burden for lower income earners

16. Which of the following is most likely to occur in the short to medium term if the government decides to increase both the tax free threshold and the top marginal rate of tax?
a) A lower Gini coefficient
b) A less equal distribution of income
c) A movement outwards of the Lorenz curve
d) An increase in the tax burden on lower income earners

17. Identify the false statement from the list below.
a) Sometimes the causes of poverty, such as a lack of savings, can also become its effect.
b) Subsidies for growers in richer countries benefit farmers in poorer countries by increasing the global prices paid for agricultural commodities.
c) A poor position for women in a country can contribute to higher rates of poverty and income inequality
d) Corruption can reduce the willingness of overseas investors to set up their business in some developing countries.

18. From the following examples of expenditure, choose the one that is least likely to be an example of Australian foreign aid (ODA).
a) Providing staff to train school teachers in Fiji.
b) Providing free COVID-19 vaccines to Papua New Guinea
c) Paying for peace keepers to work in Cambodia
d) Providing experienced farm workers to train farm hands in the United States

Questions 19 relates to the following table.

Tax rates 2022-23	
Taxable income	Tax on this income
0 - $18,200 (tax free threshold)	Nil
$18,201 - $45,000	19c for each $1 over $18,200
$45,001 - $120,000	$5,092 plus 32.5c for each $1 over $45,000
$120,001 - $180,000	$29,467 plus 37c for each $1 over $120,000
$180,001 and over	$51,667 plus 45c for each $1 over $180,000
The above rates do not include the Medicare levy of 2% Source: www.ato.gov.au	

19. Which of the following statements is false?
a) A person earning $18,200 pays zero income tax
b) A person earning $190,000 will pay 45% of this income in income tax (excluding the Medicare levy)
c) A person earning $45,000 will pay $5,092 in income tax (excluding the Medicare levy)
d) A person earning $120,000 will pay $29,467 in income tax (excluding the Medicare levy)

20. In relation to ODA (foreign aid), identify the false statement from the list below.
a) Australia directs the majority of its foreign aid to the Asia Pacific region.
b) Australia's national interest is an important consideration when deciding where the country's aid will be directed.
c) All Australian foreign aid is delivered directly by the Australian government in the form of cash payments to foreign country governments.
d) Australia donates a higher percentage of its GNI in foreign aid, than do the United States and Korea.

10.13 Chapter crossword puzzle

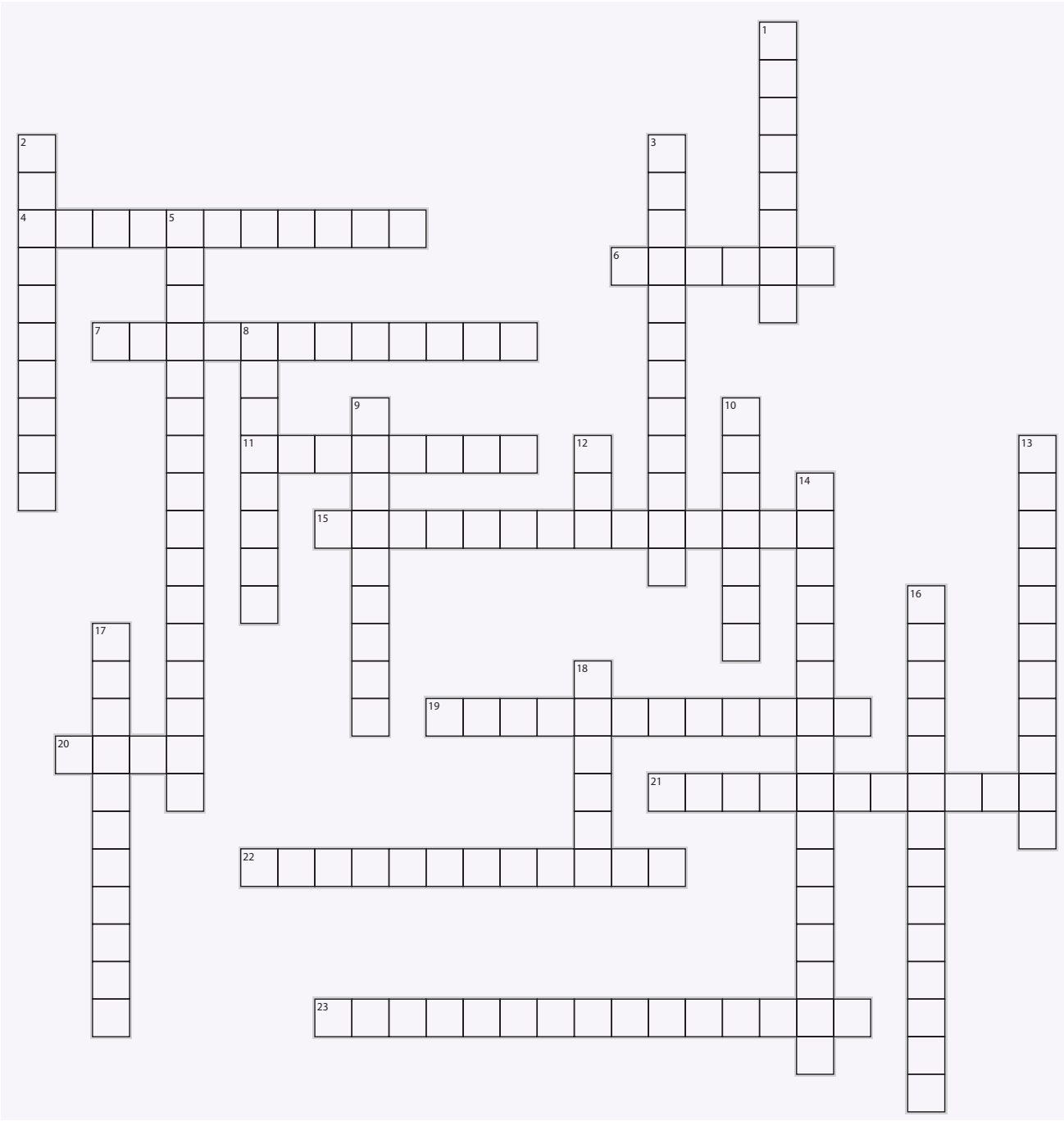
Across

4. Income that flows into a country from people working or owning property abroad, it is an important source of income for developing countries
6. In labour markets, when this is low relative to demand, we would expect wages to be high
7. The difference between women's and men's average weekly full-time equivalent earnings, expressed as a percentage of men's earnings. (3 words)
11. This type of poverty refers to people living in a situation where they have insufficient income to purchase the basic goods and services
15. A cause of income inequality in Australia, this is technically illegal and involves treating someone differently based on their personal characteristics over which they have no control.
19. Before this historical process, Aboriginal and Torres Strait Islander people thrived, and the lingering effects of the process are a significant contributor to the position of relative disadvantage ATSI people experience in income and wealth distribution in Australia.
20. This is incurred by governments of less developed economies when spending exceeds income, and is a major contributor to poverty in these countries
21. The nature of Australia's income tax system which helps to reduce inequality
22. High levels of this will tend to contribute to greater inequality and more poverty in Australia
23. A number between zero and one providing an indication of the degree of inequality in the distribution of income (2 words)

Down

1. One of these represents 20% of the population
2. The provision of money or other forms of assistance to poorer countries, with the hope of promoting economic development and reducing poverty (2 words)
3. This tax is a rare example of an indirect tax that is not regressive (3 words)
5. These types of benefits provided to lower income households helps to reduce inequality (2 words)
8. The distribution of income has this characteristic if the Lorenz curve lies on the 45 degree line (two words)
9. The World Bank classification for economies whose GNI per capita is $1085 or less (2 words)
10. That portion of income that is not used to purchase goods and services
12. Acronym for a composite statistic, that measures performance in three key dimensions of development – economics, health and longevity, and education
13. Household disposable income that is adjusted to take account of the number of people in the household that are relying on the income

14. A condition where people's intake of food is below the minimum level needed to meet their dietary energy requirements
16. The basic facilities, services and structures of a society, including roads, rail lines, schools and hospitals, and often lacking in poorer countries
17. Countries can end up in one of these because a lack of savings means they cannot fund the necessary investment o develop their economy and climb out of poverty (2 words)
18. A word used to described the reward given to people for their contribution to productive effort



10.14 Chapter summary

1. Over time, all income earned in the economy must ultimately equate to the total value of production.
2. Household income is all current receipts, whether monetary or in-kind, that are received by the household or by individual members of the household, and which are available for, or intended to support, current consumption.
3. Factor income refers to the total income received by 'factors of production' (such as labour) for their contribution to production. It includes wages and salaries, rent income, profits and dividends.
4. Transfer income is any income that has been transferred from one group to another. The most common form of transfer income occurs via the tax and transfer system in Australia (such as pensions).
5. Private or market income is the income that is received in the marketplace primarily as a result of individuals making a contribution to the production process.
6. Gross income is total income from all sources, before income taxes have been deducated.
7. Disposable income is gross income less the direct taxes levied by governments.
8. Social wage income is disposable income plus social transfers in kind.
9. Final income is social wage income less indirect taxes.
10. Equivalised household income is household disposable income adjusted for the size and composition of households.
11. The main source of household income is wages and salaries (62%) followed by government transfers (22.5%).
12. Nominal income is the value of income that is received by an entity in actual dollar terms, whereas real income is the value of income received after taking into account the effects of inflation.
13. Net wealth is the total value of assets minus the total value of liabilities held by an individual, household or other organisation.
14. The main form of household wealth in Australia is owner-occupied dwellings.
15. Savings from income help to accumulate wealth, which then boosts incomes and enables more savings to occur. This is referred to as the cycle of income, savings and wealth.
16. The Lorenz curve plots the percentage share of total income earned on the vertical axis against each quintile on the x-axis. It highlights the share of total income earned by each 20% of the household population (i.e. by each quintile).
17. The Lorenz curve for every economy will lie below the 45 degree line, highlighting that lower income groups will receive a smaller share of total income than higher income groups.
18. The Gini coefficient is a number between zero and one providing an indication of the degree of inequality in the distribution of income. It can be calculated by referring to the Lorenz curve, where the area between the actual Lorenz curve and the line of absolute equality (Area A) is divided by the total area under the line of absolute equality (Area B).
19. As inequality worsens in an economy, the Lorenz curve moves further away from the 45 degree line and the size of the Area A increases relative to Area B. This means that the Gini coefficient moves away from zero and approaches 1.
20. Absolute poverty refers to people living in a situation where they have insufficient income to purchase the basic goods and services such as food, shelter and clothing.
21. Relative poverty occurs when a household has a low level of income compared to a generally agreed standard, such as the 'Henderson poverty line'.
22. Living standards refers to the well-being of citizens in a society as determined by the collection of material and non- material factors
23. In Australia over the last 25 years there has a gradual upward trend in the Gini coefficient for income distribution, indicating that income distribution has become more unequal over that time period.
24. In Australia over the last 16 years, there has been a gradual upward trend in the Gini coefficient for wealth distribution, indicating that wealth distribution has become more unequal over that time period.
25. The distribution of income in Australia is much less unequal compared to the distribution of wealth.
26. There are regional differences in the average incomes received by Australian households, with Tasmanian households receiving the lowest median income, and households in the ACT receiving the highest median income.
27. Australia is a highly urbanized country, and living in the remoter parts of the country means lower average incomes along with less access to services that improve the quality of life.
28. First Nations people in Australia consistently earn lower average incomes than non-Indigenous Australians, and are more likely to be living on lower incomes.
29. The intersection of regional income inequalities and demographic income inequalities is most evident in the earning experiences of First Nations people of working age. The incomes for remote-dwelling Indigenous Australians are much lower on average compared to remote and non-remote dwelling non-Indigenous Australians.
30. Research in 2021-22 found that around 12% of Australians are living in poverty, and the incidence of poverty is highest among single jobless people, single parents, and those living with a disability.
31. The incidence of poverty fell notably during the early months of the COVID-19 pandemic, as the federal government temporarily doubled the JobSeeker (unemployment).
32. There is great inequality in access to resources around the globe.
33. Gross National Income(GNI) per capita is one globally comparable measure of income and wellbeing. It includes all the income earned and received by a nation's citizens, divided by its population. GNI includes GDP and adds foreign remittances that flow into a country from people working or owning property abroad.
34. Limitations of using GNI as an indicator of global income distribution include that within countries, the income may not be shared relatively equally.
35. The Human Development Index (HDI) is a composite statistic that provides a measure of the average life expectancy, education and per capita income for countries.
36. The higher a country's HDI score (and HDI ranking), the higher the level of human development in the country. Countries are ranked on a scale from 1.00 (the highest ranking) to 0.00 (the lowest possible level of human development).
37. Globally, incomes have grown, on average, by more than 130% over the period from 1980 to 2020
38. All income groups received a rise in real income but the growth in the incomes of those who already hold a large share of the

global income has been particularly significant.

39. Global wealth inequality is even higher than global income inequality.
40. There are significant differences in wealth inequality in different regions of the world.
41. Extreme poverty is defined as a condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. The international poverty line for extreme poverty is living on less than $1.90 (ppp) a day.
42. The rates of extreme poverty have been trended downward over the past 25 years.
43. Sub-Saharan Africa remains the region of the world with the largest proportion of its population living in extreme poverty, while East Asia and the Pacific regions of the world have been the most successful in lifting their populations out of extreme poverty over that period.
44. Undernourishment refers to those whose intake of food is below the minimum level needed to meet dietary energy requirements and complete basic tasks. The prevalence of undernourishment is another indicator of global poverty, and after falling from 2012 to 2016, since then it has begun to rise once again.
45. High Income countries have the lowest level of undernourishment, and the highest rates of undernourishment are in the Low-Income countries.
46. In loose terms we can think of equity and equality as the same term, but in reality they are quite different. Equity is more closely related to fairness, while equality is more related to evenness.
47. Australian governments focus on achieving an equitable distribution of income which means that Australians have sufficient income to enjoy a dignified standard of living; there is no absolute poverty; and huge inequality in incomes is avoided.
48. While it is true that 'high' levels of inequality are indeed 'bad' for society, it is equally true that some inequality is actually 'good'.
49. The government believes that the benefits of achieving equity outweigh the costs, such that the net benefits for society are positive over time.
50. The social benefits of achieving equity provide the overriding motivation for governments to reduce both poverty and the degree of inequality in the distribution of income.
51. The economic and social effects of global income and wealth inequality and poverty include higher levels of social unrest, high rates of population growth and low rates of labour productivity, increasing wealth inequality, countries ending up in a poverty trap, land degradation, inequality of opportunity and a sense of injustice.
52. Overall, the highest wage or remuneration levels are received by those individuals who supply their labour services to markets where the supply of labour is low relative to the demand. Often this occurs when the skill or talent possessed by individuals is relatively rare or unique.
53. There are a number of additional factors that help explain why some households earn a relatively low level of income in Australia, such as unemployment, underemployment, rising rates of insecure work, the legacy of colonization on the First Nations peoples of Australia, and the enduring disadvantage that has wrought, and discrimination.
54. Unregulated markets (e.g. an absence of laws and regulations) will tend to result in higher rates of economic growth compared to the more regulated markets, but they will lead to more inequitable outcomes for society.
55. Other factors contributing to income and wealth inequality within Australia include inheritance, luck and gender inequality.
56. Reasons for global poverty and income inequality vary from country to country but include: limited productive resources and pressure on those resources; a history of colonialism; inequities in the global system of trade; discrimination against women; corruption and government mismanagement; and extreme indebtedness.
57. Limited productive resources can be exacerbated by low levels of education, poor health and high birth rates, restricted savings, limited access to capital, limited infrastructure, and resource depletion.
58. Low levels of education, including low literacy rates, and limited access to capital to invest in improving productive capacity, result in poor labour productivity.
59. The governments of many countries with high rates of poverty cannot provide adequate infrastructure to support economic development (including roads, rail, hospitals and schools) because high rates of unemployment, underemployment, subsistence agriculture and poverty result in limited capacity to collect tax.
60. Many poor countries are former colonies from which European power extracted natural resources to be transformed, through value-adding, in the European countries.
61. Some developing-country farmers have moved from subsistence agriculture to embrace cash crops, as a way or earning export income.
62. Government in many rich, developed countries still provide large subsidies to domestic producers of agricultural products, disadvantaging agricultural producers in poor countries.
63. Discrimination against women and their exclusion from the productive economy in many poor, developing countries has contributed to ongoing poverty, and to women constituting 70% of the world's poor.
64. Many of the world's poorest countries have large amounts of debt.
65. Productive debt can help countries to develop their economies through allowing investment in productive capacity.
66. Unproductive debt results in unsustainably high levels of debt servicing that diverts resources away from the provision of infrastructure and essential services in poor countries.
67. With respect to the social costs of achieving equity they are relatively limited when compared to the social benefits.
68. The pursuit of equity can prevent an economy from enjoying a number of economic benefits. Accordingly, the achievement of equity or equality might result in economic costs such as lower quality of human and physical capital as well as low(er) rates of productivity.
69. While greater inequality does indeed result in some economic benefits for a country, it is important not to conclude that governments actually target inequality in order to derive economic benefits.
70. There is an optimal level of inequality. Any level of inequality below or above this level leads to a deterioration of national living standards.
71. Australian governments actively seek to minimise the incidence of absolute poverty and reduce inequality by supporting low-income households in four main ways. First, via policies to improve the ability of low-income groups to gain employment. Second, via the provision of cash benefits. Third, via implementation of a progressive income tax system. Fourth, via provision of non-cash

benefits to lower income households.

72. Governments can also help to prevent rising inequality via measures to reduce unemployment, exempting basic goods from the GST, or even imposing progressive indirect taxes like the luxury car tax.
73. Proportional taxes on income are those where the 'rate of tax' stays the same regardless of how much income is earned.
74. Indirect taxes are taxes that are not directly imposed on the income earned by individuals but rather on the production or consumption of a product.
75. The GST is a regressive tax because it forces lower income earners to pay a higher proportion of their income in the tax when they purchase goods and services.
76. A Universal Basic Income (UBI) is a system whereby all citizens in a country receive a fixed amount of income each month, and receipt of the income is not dependent upon the person contributing to the productive process and is paid regardless of whether they are employed, unemployed, or not in the labour force.
77. Foreign aid occurs when governments or individuals in richer, developed countries provide money or other forms of assistance to poorer, developing countries, to promote economic development and improve living conditions.
78. Foreign aid can be bilateral from one government directly to another country, or multilateral, through programmes operated by international agencies such as the World Bank or UNICEF.
79. Foreign aid can also come from the private sector, through non-government organisations (NGOs), to which private citizens in rich countries donate.
80. Foreign aid can be provided in the form of: loans, sometimes on concessional terms at low rates of interest; grants to transfer money between one country and another, with no expectation of repayment, used to build facilities or provide programmes; and providing technical assistance, training and capacity building in developing countries.
81. Australia increasingly concentrates its foreign aid on the Asia Pacific region, with a particular emphasis on the Pacific Ocean region, as it is one of the poorest regions in the world and Australia's aid is being used to counterbalance the rising influence of China in the region.
82. Foreign aid to the Asia Pacific is in Australia's national interest as it promotes increased regional stability, reduced poverty in our neighbours, and potentially increased future trade as those countries develop.
83. There remains an ongoing debate internationally over how much foreign aid is enough. For more than three decades, the richer member countries have promised to commit a minimum of 0.7% of GNI annually to foreign aid (ODA – Overseas Development Assistance). As of 2021, only five countries have met that goal.

Useful websites

Economics from the ground up
www.ecogroundup.com.au
Victorian Curriculum & Assessment Authority
www.vcaa.gov.au
Reserve Bank of Australia
www.rba.gov.au
Department of Foreign Affairs and Trade
www.dfat.gov.au
Department of Treasury
www.treasury.gov.au
Commonwealth Budget
www.budget.gov.au
Commercial Teachers' Association
www.vcta.asn.au
Australian Bureau of Statistics
www.abs.gov.au
Productivity Commission
www.pc.gov.au
Mr Salla's site
www.economicstutor.com.au
The Age newspaper
www.theage.com.au
Parliament House
www.aph.gov.au
Australian Chamber of Commerce and Industry
www.australianchamber.com.au
The Australian Stock Exchange
www.asx.com.au
The Australian Competition and Consumer Commission
www.accc.gov.au
Austrade
www.austrade.gov.au
Australian Council of Social Services
www.acoss.org.au
The Economist
www.economist.com
The Australian Financial Review
www.afr.com
Fair Work Australia
www.fwa.gov.au
Organisation for Economic Cooperation and Development
www.oecd.org
National Skills Commission
www.nationalskillscommission.gov.au
Department of Home Affairs
www.homeaffairs.gov.au
Department of Environment and Energy
www.environment.gov.au
John Ditchburn's cartoons
www.inkcinct.com.au
Peter Nicholson's cartoons
www.nicholsoncartoons.com.au
World Bank
www.worldbank.org
The International Monetary Fund
www.imf.org
The World Trade Organisation
www.wto.org
United Nations Development Programme
www.undp.org
Jubilee Debt Campaign
www.jubileedebtcampaign.org.uk
Fairtrade International
www.fairtrade.net
AusAID
www.ausaid.gov.au
Fairtraide Australia
www.fta.org.au

Multiple choice answers

Visit **www.ecogroundup.com.au** for answers to multiple choice questions from each of the 10 chapters.

Abnormal losses	Where businesses are not making enough profit to justify ongoing supply to a market. That is, businesses are making less than 'normal profits'. These losses are likely to encourage firms to exit the industry.
Abnormal profits	Where businesses are making more than enough profit to justify ongoing supply to a market. That is, businesses are making more than 'normal profits'. Also referred to as 'supernormal profits' and they are likely to encourage firms to enter the industry.
ABS	Australian Bureau of Statistics. The government body responsible for gathering and reporting statistical information.
Absolute advantage	Where a country is more efficient than another country in producing all goods and services in the sense that it can produce more of every good or service using the same inputs as another country.
Absolute poverty	A situation where a person or a household has insufficient income to purchase the basic necessities such as food, clothing and shelter.
ACCC	See Australian Competition and Consumer Commission.
Advertising	Paid, non-personal communication used to persuade consumers to buy products. E.g when a business promotes their products with a view to increasing consumer demand and differentiating their products from those of rival businesses.
Affluenza	The addictive pursuit of more and more goods and services.
Aggregate Demand	Total expenditure on Australian made goods and services.
Aggregate supply	The total value of goods and services available for sale in an economy in a given time frame.
Aggregate supply policies	Any government initiative that is designed to reduce the costs of production and/or improve supply conditions for businesses.
AIRC	See Australian Industrial Relations Commission.
All ordinaries index	An index comprising the prices of major companies on the Australian stock exchange. An increase in the index indicates that the sharemarket has improved.
Allocative efficiency	A type of efficiency measured by how well resources are being allocated in the economy. The most efficient allocation of resources occurs when living standards and welfare are maximised and it is not possible to further increase living standards by changing the way resources are allocated
Appreciation	When one currency is able to purchase more of another currency. For example, if the Australian dollar appreciates, one AUD will purchase more USD than it could before.
Assembly plant	A factory where manufactured parts are assembled (put together) to create a finished product.
Asset markets	The share market and property market.
Australian Competition and Consumer Commission (ACCC)	The government body responsible for policing the Trade Practices Act (or competition policy) and whose role is to improve competition and efficiency in markets and to foster adherence to fair trading practices.
Australian Fair Pay Commission (AFPC)	The government body set up under Workchoices to set minimum wages, but now replaced by Fair Work Australia .
Australian Industrial Relations Commission (AIRC)	The government body that was once responsible for the conciliation and arbitration of industrial disputes and the determination of minimum wages. Colloquially, the industrial relations 'umpire'. It has since been replaced by Fair Work Australia.
Average weekly earnings	Gross (before tax) earnings of employees and derived by dividing total weekly earnings by the number of employees.
Award system	A feature of the highly 'centralised' system of industrial relations that existed in the past where wages and conditions were determined predominantly by highly inflexible Awards.
Awards	Legal documents establishing the minimum wages and conditions applying to various occupations, and normally each Award covers one industry.
Balance of Payments Payments (BOP)	An accounting summary of all the financial transactions between residents of Australia and residents of the rest of the world. Includes the Current Account and the Capital and Financial Account.
Balance of trade	The value of all exports minus imports (including both services and goods). See Balance on Merchandise Trade (BOMT)
Balance on goods and services (BOGS)	The combination of the Balance on Merchandise Trade (BOMT) and Net Services in the Balance of Payments. Made up of total exports of goods and services less the total imports of goods and services.
Balance on Merchandise Trade (BOMT)	A sub-account in the Balance of Payments made up of the total value of exports (credits) minus the total value of imports (debits) of goods.
Balanced budget	When government revenue (or receipts) is equal to government expenses (or expenditure).
Barriers to entry	Factors making it difficult for firms to commence operations or enter an industry, such as large 'set-up' costs, government regulations or the market power of incumbent firms already in the industry..
Behavioural economics	A field of study that seeks to incorporate the insights of psychology into economics, to enhance the explanatory power of economics.
Behavioural economist	A practitioner of behavioural economics.
Benefit-cost ratio	A ratio of the benefits to costs where a ratio greater than 1.0 indicates that a project's benefits outweighs the costs, whereas a ratio of less than 1.0 indicates that the costs outweigh the benefits.
BEPS	A tax avoidance strategy used by MNCs, where profits are shifted from jurisdictions that have high taxes (such as the United States and Australia) jurisdictions that have low (or no) taxes. Often achieved by manipulating transfer prices (contracts between MNCs subsidiaries in different jurisdictions at prices that are designed to minimise tax but not lose money overall for the company). The term is used in the OECD project designed to stop the practice.
Bilateral foreign aid	Bilateral foreign aid is aid given from one country government to another country's government,
Blind recruitment	The practice of removing personally identifiable information from the resumes of applicants including their name, gender, age, education, and even sometimes the number of years of experience, in order to promote a selectin process that achieves more diverse outcomes.
Bonds	Debt instruments issued by governments or corporations, and used to raise money for the government, often to finance budget deficits. The bond purchaser becomes the lender to the bond issuer.

GLOSSARY OF TERMS

Abnormal losses	Where businesses are not making enough profit to justify ongoing supply to a market. That is, businesses are making less than 'normal profits'. These losses are likely to encourage firms to exit the industry.
Abnormal profits	Where businesses are making more than enough profit to justify ongoing supply to a market. That is, businesses are making more than 'normal profits'. Also referred to as 'supernormal profits' and they are likely to encourage firms to enter the industry.
ABS	Australian Bureau of Statistics. The government body responsible for gathering and reporting statistical information.
Absolute advantage	Where a country is more efficient than another country in producing all goods and services in the sense that it can produce more of every good or service using the same inputs as another country.
Absolute poverty	A situation where a person or a household has insufficient income to purchase the basic necessities such as food, clothing and shelter.
ACCC	See Australian Competition and Consumer Commission.
Advertising	Paid, non-personal communication used to persuade consumers to buy products. E.g when a business promotes their products with a view to increasing consumer demand and differentiating their products from those of rival businesses.
Affluenza	The addictive pursuit of more and more goods and services.
Aggregate Demand	Total expenditure on Australian made goods and services.
Aggregate demand policies	Government policies such as budgetary policy and monetary policy that are used to stimulate or restrain aggregate demand to promote the achievement of the government's macroeconomic goals.
Aggregate supply	The total value of goods and services available for sale in an economy in a given time frame.
Aggregate supply policies	Any government initiative that is designed to reduce the costs of production and/or improve supply conditions for businesses.
AIRC	See Australian Industrial Relations Commission.
All ordinaries index	An index comprising the prices of major companies on the Australian stock exchange. An increase in the index indicates that the sharemarket has improved.
Allocative efficiency	A type of efficiency measured by how well resources are being allocated in the economy. The most efficient allocation of resources occurs when living standards and welfare are maximised and it is not possible to further increase living standards by changing the way resources are allocated
Anchoring effect	Is where consumers' judgments are affected by some arbitrary starting value or 'anchor'.
Appreciation	When one currency is able to purchase more of another currency. For example, if the Australian dollar appreciates, one AUD will purchase more USD than it could before.
Assembly plant	A factory where manufactured parts are assembled (put together) to create a finished product.
Asset markets	The share market and property market.
Australian Competition and Consumer Commission (ACCC)	The government body responsible for policing the Trade Practices Act (or competition policy) and whose role is to improve competition and efficiency in markets and to foster adherence to fair trading practices.
Australian Fair Pay Commission (AFPC)	The government body set up under Workchoices to set minimum wages, but now replaced by Fair Work Australia .
Australian Industrial Relations Commission (AIRC)	The government body that was once responsible for the conciliation and arbitration of industrial disputes and the determination of minimum wages. Colloquially, the industrial relations 'umpire'. It has since been replaced by Fair Work Australia.
Availability heuristic	A tendency for consumers to rely on, and use information, that is most convenient and accessible when making decisions.
Average weekly earnings	Gross (before tax) earnings of employees and derived by dividing total weekly earnings by the number of employees.
Award system	A feature of the highly 'centralised' system of industrial relations that existed in the past where wages and conditions were determined predominantly by highly inflexible Awards.
Awards	Legal documents establishing the minimum wages and conditions applying to various occupations, and normally each Award covers one industry.
Balance of Payments Payments (BOP)	An accounting summary of all the financial transactions between residents of Australia and residents of the rest of the world. Includes the Current Account and the Capital and Financial Account.
Balance of trade	The value of all exports minus imports (including both services and goods). See Balance on Merchandise Trade (BOMT)
Balance on goods and services (BOGS)	The combination of the Balance on Merchandise Trade (BOMT) and Net Services in the Balance of Payments. Made up of total exports of goods and services less the total imports of goods and services.
Balance on Merchandise Trade (BOMT)	A sub-account in the Balance of Payments made up of the total value of exports (credits) minus the total value of imports (debits) of goods.
Balanced budget	When government revenue (or receipts) is equal to government expenses (or expenditure).
Barriers to entry	Factors making it difficult for firms to commence operations or enter an industry, such as large 'set-up' costs, government regulations or the market power of incumbent firms already in the industry..
Behavioural economics	A field of study that seeks to incorporate the insights of psychology into economics, to enhance the explanatory power of economics.
Behavioural economist	A practitioner of behavioural economics.
Benefit-cost ratio	A ratio of the benefits to costs where a ratio greater than 1.0 indicates that a project's benefits outweighs the costs, whereas a ratio of less than 1.0 indicates that the costs outweigh the benefits.
BEPS	A tax avoidance strategy used by MNCs, where profits are shifted from jurisdictions that have high taxes (such as the United States and Australia) jurisdictions that have low (or no) taxes. Often achieved by manipulating transfer prices (contracts between MNCs subsidiaries in different jurisdictions at prices that are designed to minimise tax but not lose money overall for the company). The term is used in the OECD project designed to stop the practice.

Bilateral foreign aid	Bilateral foreign aid is aid given from one country government to another country's government,
Blind recruitment	The practice of removing personally identifiable information from the resumes of applicants including their name, gender, age, education, and even sometimes the number of years of experience, in order to promote a selectin process that achieves more diverse outcomes.
Bonds	Debt instruments issued by governments or corporations, and used to raise money for the government, often to finance budget deficits. The bond purchaser becomes the lender to the bond issuer.
Boom	A period of very high rates of growth in production (or real GDP) that is likely to be unsustainable.
BOP	See Balance of Payments.
Bounded rationality	The notion that a consumer's ability to make consistently rational decisions is compromised by the availability of information, the complexity of the decision, the brain's cognitive limitations and time constraints.
Bounded self-interest	The notion that consumers are social beings and as such care about fairness, and are not always driven by narrow self-interest to maximise their personal benefit.
	The degree of competition that exists amongst different producers (or sellers) of goods and services in their quest to increase market share.
Bounded willpower	The notion that consumers do not possess absolute self-control when confronted
with choices.	A good that is used with another good; for example, coffee and milk, bread and butter, cars and petrol, sushi and soy sauce, an iPod and earphones.
Bracket creep	See Fiscal drag.
Brand loyalty	The continuing willingness of consumers to purchase and repurchase particular brands of goods and services. This implies that consumers are unwilling to entertain the purchase of other brands. Business seeks to cultivate brand loyalty.
Budget constraint	The amount of income that consumers have at their disposal to spend on goods and services.
Budget deficit	When government revenue (or receipts) is less than government expenses (or expenditure).
Budget outcome	The outcome of the budget, either balanced, surplus or deficit.
Budget surplus	When government revenue (or receipts) exceeds government expenses (or expenditure).
Budgetary policy	The manipulation of the level and composition of federal government receipts and outlays in order to assist in the achievement of its economic and social goals for Australia.
Business	An entity that provides a good or service for sale with the objective of making a profit.
Business confidence	The general business community's perception of their future levels of sales and profitability (also referred to as business sentiment).
Business cycle	The cyclical movement of economic activity over time, with periods of above average rates of economic growth and periods of negative or low rates of growth. Also referred to as the economic cycle. 'Booms' and 'busts' can be a feature of the business cycle. The business cycle needs to be judiciously managed by policy makers to avoid such occurrences.
Business sentiment	See business Business confidence.
CAD	See Current Account Deficit.
CAFA	See Capital and Financial Account.
Capacity constraints	Factors that prevent (or constrain) an economy from producing more goods and services, such as skills shortages and infrastructure bottlenecks. It typically occurs when the economy is at productive capacity.
Capacity utilisation	The rate at which industries are producing in relation to maximum capacity. A high level of capacity utilisation means there is very little spare capacity left to allow a rapid increase in output.
Capital	Resources which have been made by combining labour and natural resources to create a more sophisticated input in the production process (e.g. machinery). Not to be confused with financial capital.
Capital Account	A sub-account in the CAFA of the BOP and a relatively insignificant account covering capital transfers, the acquisition/ disposal of non-produced, non-financial assets, between residents and non-residents.
Capital and Financial Account	The second of the two accounts in the BOP and made up of two sub-accounts, the Capital Account and the Financial Account.
Capital inflow	Funds entering the country in the form of either debt or equity. It often refers to overseas parties being attracted to the relatively higher Australian interest rates and lending to Australians.
Capitalism	An economic system where the majority of productive resources are owned by private individuals and firms.
Carbon Tax	A tax on businesses emitting carbon when producing goods and services. The motivation is to increase the relative price of carbon-intensive products, creating incentives for producers to invest in alternative energies and encourage households to adopt more energy-efficient options (such as solar energy). Australia's carbon tax was repealed in 2014.
Cartel conduct	When two or more firms agree not to compete against each other and instead develop joint strategies to manipulate the market at the expense of consumers.
Cash crops	Crops that are grown and sold for export by farmers in developing countries, in order to earn money, including soy and palm oil. They have been blamed for environmental damage and hunger in developing countries.
Centralised system	Used in relation to industrial relations and refers to the inflexible system of wages determination where wages and conditions were determined predominantly by Awards and negotiated by peak bodies such trade unions, governments and employer representatives.
Centrally-planned economy	An economic system in which economic decisions are made by the state or government rather than by the market system. The production of goods and services is undertaken by government-owned enterprises.
Ceteris paribus	Latin phrase meaning 'all other things being equal.' It is used in Economics to isolate the cause and/or effect of a change(s) in variables.
Chain volume measure of GDP	An estimate of real GDP in the economy. In simple terms, it involves using prices from the previous period and applying them to current period volumes.

GLOSSARY OF TERMS

Choice architect	A person or organisation responsible for creating the context in which people make decisions.
Choice architecture	The context within which a choice is made.
Climate change	The significant changes to the planet's climate (e.g. global warming) as a result of excessive (carbon and other greenhouse gas emissions).
Cloud computing	The use of computing resources that are delivered as a service over a network, usually the Internet. Cloud computing entrusts a remote service with the user's data, computation and software. The data is stored on a remotely located server that often serves a number of clients.
Collective bargaining	A type of wage negotiation where workers join forces and collectively negotiate wages and conditions with employers. See enterprise bargaining.
Colonialism	An historical process whereby European powers took charge of many areas of Asia, Africa and Latin America, which some economists argue helped to create poverty in developing countries
Commodity	Raw materials such as minerals and agricultural products.
Commodity prices	The prices for raw materials such as minerals and agricultural products.
Commonwealth Government Securities	Government issued debt, typically in the form of government bonds.
Company taxes	Taxes paid by corporations. Currently at a rate of 30% (of profits in Australia.
Comparative advantage	A theory stating that that a country should produce those goods and services that where it is more efficient at producing, relative to another country. That is, a country will trade where the opportunity costs of producing a good or service are lower than other countries.
Competition and Consumer Act	Government legislation designed to promote competition and to prevent anti-competitive behaviour. The Competition and Consumer Act (2010) replaced the Trade Practices Act (1974).
Competition law	See Trade Practices Act (1974) or Competition and Consumer Act (2010)
Competitive market	Where all economic agents are price takers. No individual buyer or seller has the market power to influence prices.
Competitiveness	The degree of competition that exists amongst different producers (or sellers) of goods and services in their quest to increase market share.
Complement	A good or service that tends to be consumed with another good or service (e.g. sugar is a complement for coffee and butter is a complement for bread).
Complementary good	A good that is used with another good; for example, coffee and milk, bread and butter, cars and petrol, sushi and soy sauce, an iPod and earphones.
Conformity bias	A tendency for people to take cues for right or proper behaviour from the actions of others when making decisions
Conspicuous consumption	Wwhere consumers purchase particular goods and services for the utility derived from the ostentatious exhibition of such 'status' goods and services.
Consumer confidence	A measure of the degree of positivity or negativity about current and future economic conditions, including future employment, from the perspective of households.
Consumer durables	Mass produced heavy goods, such as washing machines and refrigerators, that are designed to last for an extended period of time. Increasing demand for and consumption of these often accompanies economic development.
Consumer price index	An indicator of consumer price inflation, which measures the change in the prices of a basket of goods and services purchased by the average Australian household.
Consumer sentiment	See consumer confidence.
Consumer sovereignty	Where consumers primarily determine what will be produced via their purchasing decisions.
Consumer surplus	The 'benefit' consumers receive if they obtain a good or service for less than the maximum they are willing to pay. For example, if someone purchases a house for $500,000 when they were prepared to pay $600,000, they have enjoyed a $100,000 consumer surplus.
Consumers	Economic agents who purchase goods and services.
Consumption expenditure	Part of AD and defined as the total value of all expenditures on individual and collective consumption goods incurred by resident households and non-profit institutions.
Containerisation	a system of freight transport using shipping containers (also called ISO containers) made of weathering steel, made in standardized dimensions.
Contracting out	When a business pays for other business entities to provide services that were previously provided 'in house'. For example, a business who employed its own cleaners might decide to contract out the task to a private cleaning business.
Contraction	A downturn in economic activity.
Contractionary policy	A policy that is designed to constrain or restrict economic activity. For example, a decision by the RBA to raise interest rates to relatively high levels is an example of a restrictive or contractionary policy.
Core rate of inflation	See Underlying rate of inflation.
Corporatisation	When a GBE is restructured to operate with the same disciplines and market pressures applying to private enterprises.
Corporatisation	Where the government retains ownership of its GBEs but expects it to operate like a private sector business, with a focus on profit maximisation and making efficiency gains.
Cost inflation	Inflation caused by rising costs of production.
Cost of credit	The cost of borrowing money and one of the monetary policy transmission mechanisms.
Cost per unit	The cost of all inputs required to produce one unit of a product, including fixed and variable costs. Calculated by dividing total costs by the number of units produced (i.e. average cost per unit).
Cost-benefit analysis	A comparison of the expected costs and the expected benefits of a particular course of action or project.
Costs of production	Those costs incurred by businesses in the process of producing goods and services.

CPI	See Consumer price index.
CPI all groups excluding volatile items	An inflation measure based on the normal CPI but excluding the 'volatile items' of fruit and vegetables and fuel. One measure of underlying inflation.
CPI Weights	Attached to each CPI group of items to reflect their relative importance to the typical Australian household.
Credit	A transaction in the Balance of Payments where Australia receives money
Credit growth	The rate of growth of credit (loans) in the economy, with stronger growth both reflecting and contributing to stronger economic activity.
Currency union	When two or more countries share a common currency. The largest example is the European Union, where 17 countries use a common currency, the Euro.
Current Account	In the BOP and includes the receipts and payments of a 'current' nature (i.e. they do not create any future obligations). It includes the balance on goods, services, primary incomes and secondary incomes.
Current Account Balance	The sum of the trade balance and the net incomes (primary and secondary) balance. In Australia, this has historically been a deficit, and hence is often abbreviated to Current Account Deficit (CAD).
Current Account Deficit (CAD)	When total payments (or debits) in the Current Account of the BOP exceed total receipts (or credits). Often expressed as a percentage of GDP.
Current transfers	Formerly part of the Current Account of the BOP that is made up of receipts in the form of foreign pensions, gifts or other gratuitous payments minus payments such as foreign aid, gifts, pensions and other gratuitous payments. Now referred to as 'Net Secondary Income.'
Cyclical unemployment	Unemployment that occurs when the economy is not operating at its full capacity due to a deficiency of AD.
Debit	A transaction in the Balance of Payments where money leaves Australia.
Debt	The amount of money owing to lenders following the receipt of borrowed funds. Many households and businesses use debt as a method for making large purchases that they could not afford under normal circumstances. A debt arrangement gives the borrower permission to borrow money under the condition that it is paid back at a later date, usually with interest.
Debt forgiveness	see Debt relief.
Debt relief	The provision of low interest loans or cancelling of debt by the IMF and the World Bank, in order to allow the poorest countries to reallocate resources to poverty alleviation.
Debt servicing	The cash required for a particular time period to cover the repayment of interest and principal on a debt. A cause of poverty in many of the poorest countries.
Decentralised industrial relations system	An approach to the labour market where decisions regarding wage and conditions of work are reached at enterprise and workplace levels with little intervention from the government. Agreements to improve employment conditions are often made contingent on improvements in productivity.
Default	When borrowers fail to promptly pay interest on loan or the principal on a loan when it falls due.
Deflation	A decrease in the average price level over time. The opposite of inflation.
Demand factor	A factor that causes changes in economic activity via its impact on AD.
Demand inflation	Inflation caused by excessive growth in Aggregate Demand.
Demerit goods	Those goods and services that are not in the nation's best interest and are over-produced in an unregulated economy. They include illicit drugs and child pornography, as well as those that are produced and consumed in excessive quantities, such as alcohol or gambling. The opposite of merit goods.
Demographics	An area of study that looks at the composition of the population and where those people live.
Depreciation	When one currency is able to purchase less of another currency. For example, if the Australian dollar depreciates, one AUD will purchase less USD than it could before.
Deregulation	The removal of government controls on an industry or sector of the economy. This has been a key driver of globalisation.
Derived demand	The demand for a resource (usually land, labour or capital) is dependent upon demand for the goods and services that utilise those resources.
Developed country	A term commonly used to refer to richer countries, that have high levels of economic development. The World Bank uses the term to refer only to high-income countries where average incomes are US$12,476 or more per annum.
Developing country	A term used to refer to poorer countries that have a low level of economic development and may be in the process of improving their level of economic development
Development economics	A field of economics that focuses on improving economies of developing countries. It considers the causes of a lack of development and concentrates on improving the economies of developing countries.
Differentials in wages/ labour costs	See Wage differentials
Differentiated products	Products that are not homogenous or perfect substitutes for other products. Often differentiated products are similar to other products, but are made to appear different in some way via marketing (see product differentiation).
Diminishing marginal utility	Occurs when the more of a good or service that is consumed per period, the smaller the increase in total utility (or satisfaction) that is generated from the last unit.
Direct action(s)	Governments investing directly in projects which are designed to achieve specific environmental outcomes.
Direct investment	Setting up a production facility or purchasing more than 10% of a company's shares in a foreign country. Typically a surplus for Australia, meaning that foreign entities directly invest more in Australia than Australian entities invest abroad.
Direct tax	A tax paid directly by economic agents, normally based on the income they earn, such as income taxes. Also see indirect tax.
Discouraged job seekers	See Hidden unemployment.

GLOSSARY OF TERMS

Discretionary income	The income available for consumption on goods and services following the payment of unavoidable expenses, such as mortgage repayments, rent, etc. Not to be confused with disposable income.
Disequilibrium	When the market is in a state of excess demand or excess supply due to price being too low or too high.
Disguised unemployed	Those people who are technically counted as employed (because they are working one hour per week or more) but are underemployed. They may be working part-time and would like more hours, possibly full-time hours. See Underemployment.
Disincentives	[policies that] discourage economic agents from making specific decisions. A feature of disincentives is the use of costs or penalties to influence behaviour.
Disinflation	A reduction in the rate of inflation. Not to be confused with deflation.
Disposable income	The total income that households have received in exchange for their participation in the production process plus government transfers less direct (income) taxes). That is, Gross Income less the direct taxes levied by governments. It measures how much income earners have to spend.
Diversification	The adding of products, services, locations or markets to a business' activities, often undertaken as businesses grow larger. Done with a view to increasing the variety of sources of revenue in the event that an original market ceases to be profitable.
Dividend yield	A dividend (profit distributed to shareholders per share) expressed as a percentage of a current share price.
Dividends	The payment of profit to shareholders.
Division of labour	Tasks in the production process are broken down and divided up, and workers are assigned particular stages or tasks in that process. Internationally, this has been a cause of the relocation of many labour-intensive jobs to low-wage countries.
Domiciled	The legal residence, or home, of a company. Many MNCs are domiciled in one country but operate globally.
Dumping	The practice of selling a good in a foreign market at a price below the costs of production. It is often done to eliminate competition.
Dynamic efficiency	How quickly resources can be re-allocated from one activity to another.
Ecommerce	The buying and selling of goods and services via the Internet.
Economic activity	Volume (or real value) of production, employment, incomes and expenditure in an economy.
Economic agents	Any entity, such as a person, household, government or business that makes economic decisions
Economic cost	See Opportunity cost.
Economic cycle	See Business cycle.
Economic development	A term referring to improvements in the economic well-being of a nation, including material and non-material factors such as growth in incomes and wealth, and access to health, education and social advancement.
Economic entity	A discrete economic unit. Can refer to a company, country, household or even a person.
Economic globalisation	The integration of the world's economy, towards operating as one single market, brought about by the removal of barriers between the economies of countries.
Economic growth	An increase in the amount or level of national production that has occurred over time. Most commonly measured by changes in the level of real GDP.
Economic stabilisation	The use of aggregate demand policies to stabilise the business cycle to avoid economic issues such as demand inflation (and booms) and cyclical unemployment (and recessions).
Economics	A social science that studies the decisions made by individuals, businesses, governments and other groups about how scarce resources are allocated.
Economies of scale	The benefits that are enjoyed by firms when an increase in the volume of output leads to a reduction in average (or unit) costs of production. It relates primarily to the fact that fixed costs can be spread over a larger range of output.
Economy	A place where scarce resources are allocated among competing uses and goods/services are bought and sold.
Efficient allocation of resources	A situation where the economy's scarce factors of production are allocated to the production of the goods and services that society values most. This necessarily implies that no alternative allocation of the factors of production will yield greater satisfaction to society.
Elasticity	The responsiveness of demand or supply to a change in a variable such as price. For example, a high price elasticity of demand means that the responsiveness of demand to a change in price is high.
Emigration	When people leave their country and settle in another. From an Australian perspective, this means that Australians leave to live in another country.
Emissions reduction fund (ERF)	A budget allocation of an amount that businesses can apply for a part of to spend on projects that reduce greenhouse gas emissions or which capture and store carbon
Emissions trading scheme (ETS)	A scheme designed to achieve the most efficient reduction in carbon pollution by using market forces to place a price on pollution (e.g. carbon) and creating incentives for producers to achieve the most efficient forms of pollution abatement, and at the same time, provide incentives to invest in more renewable forms of energy.
Emotional framing	A type of framing that appeals to emotions and feelings to influence consumer decisions.
Employed	When someone (over 15 years of age) is working more than one hour per week in return for some form of measurable remuneration (such as wages).
Employment	The provision of labour resources to the business, government and/or not-for-profit sectors.
Enterprise agreement	Collective agreements between businesses and their workers over wages and conditions of employment.
Enterprise bargaining	A type of wage negotiation where workers join forces at a particular workplace (or enterprise) and collectively negotiate wages and conditions with employers. See collective bargaining.
Entrepreneurship	The skills of those individuals who combine our resources to produce goods and services.
Environmental impact statement	A statement outlining the net impact on the environment that stems from any proposed development. See Environmental impact studies

Environmental impact studies	Studies that seek to weigh up the costs and benefits of any proposal in terms of the impact on the environment.
Environmental policies	Policies that are designed to conserve the natural environment and/or minimise long term environmental damage that may be caused by negative externalities.
EPBC Act	See Environment Protection and Biodiversity Act (1999).
Equilibrium price	The price at which the quantity demanded is equal to the quantity supplied.
Equilibrium quantity	The market quantity that is bought and sold such that there is neither an excess demand nor an excess supply of products at the prevailing price. (Also refer to market equilibrium).
Equity	Ownership of assets, such as shares. For example, a shareholder has an equity interest in a company. See net foreign equity. Equity is also often considered in terms of the notion of fairness or equality. See Equity in the distribution of income.
Equity in the distribution of income	The goal of ensuring that all Australians have sufficient income to purchase those goods and services that enables them to have a 'dignified' standard of living; to avoid absolute poverty and to ensure that huge or obscene inequalities in incomes are avoided.
Equivalised household income	Disposable income adjusted for the size and composition of households.
Ethics	The moral principles that guide a person's behaviour and can therefore influence the consumption and production of goods and services.The moral principles that guide a person's behaviour.
Excess demand	Where the quantity demanded exceeds the quantity supplied (shortage). Eight
Excess supply	Where the quantity supplied exceeds the quantity demanded (surplus or glut).
Exchange rate	The value of a nation's currency (e.g. the value of the Australian dollar) when compared to another currency, or a basket of currencies of one's major trading partners. See Trade Weighted Index.
Excise tax	An indirect tax levied on certain goods such tobacco, alcohol and petrol.
Exclusive dealing	when a business engages in contractual dealings with clients (e.g. customers or suppliers) with the express purpose of restricting the ability of the client to engage in business dealings with its competitors.
Expansionary policy	A policy that is designed to stimulate or expand economy activity such as the RBA reducing interest rates to relatively low levels.
Exports	Goods and services that are made in Australia and purchased by foreign residents.
External stability	When Australia is able to meet its international financial obligations that result from transactions with the rest of the world, without jeopardising economic growth or other economic goals. Requires that the CAD and NFD (or NFE) are manageable and sustainable over time.
Externalities	An externality arises when the production or consumption of a good or service has an effect, whether positive or negative, on a third party or bystander (someone who is not part of the transaction).
Externality	When a third party is affected (either positively or negatively) from a transaction between two or more other parties. Externalities can occur in the production or the consumption of a good and/or service.
Factor income	The total returns to factors of production for the contribution to production.
Fair Work Act (2009)	An Act of parliament containing the detail relating to Australia's new industrial relations system that superseded Workchoices.
Fair Work Australia	The government body that recently replaced several other agencies, including the Australian Industrial Relations Commission, the Australian Fair Pay Commission and the Workplace Authority.
Fairtrade	A programme that provides a reasonable price for goods and services, to make sure that the producers of agricultural products in developing countries are remunerated fairly.
Feminisation of poverty	The phenomenon that women represent disproportionate percentages of the world's poor. UNIFEM describes it as "the burden of poverty borne by women, especially in developing countries".
Financial Account	A sub-account in the CAFA of the BOP and the most important account within the CAFA as it effectively records how Australia finances its CADs. Records the inflows (credits) and outflows (debits) of debt and equity that relate to Australia's net foreign liabilities.
Financial capital	Funding or money that is typically used to finance the acquisition of assets. Includes both debt and equity.
Financial obligations	Involves economic agents being contractually required to perform some act into the future as a result of a financial (or international) transaction. For example, the decision by a company to issue debt in foreign markets will bring with it an obligation to repay the debt (and interest) into the future.
Fiscal drag	The process of inflation increasing nominal wages (as workers seek to protect real wages) and pushing some workers into higher marginal tax brackets. This increases the 'average' rate of tax paid by taxpayers and boosts the real value of federal government revenue. Also referred to as bracket creep.
Fixed costs	Costs of production that do not vary with the quantity of goods or services produced, within the limits of current capacity. Include management costs, the factory and plant (machinery used), and marketing.
Floating (currency)	When governments remove restrictions on the value of their currency's exchange rate, and allow the exchange rate to be determined by market forces (demand and supply). A common feature of financial deregulation.
Follow-the-sun	A global workflow process that allows companies to offer 24/7 customer service, while workers work a standard day.
Foreign aid	The provision of money or other forms of assistance from richer nations to poorer, developing countries, with the hope of promoting economic development. The official name for foreign aid of the type given by the Australian Government is Official Development Assistance (ODA).
Foreign currency speculators	Investors who seek to profit from buying currencies at one price and selling at a higher price.
Foreign Direct Investment (FDI)	Purchasing a controlling interest (more than 10%) in foreign assets/companies. It may also include the establishment of a branch in another country.

GLOSSARY OF TERMS

Foreign remittances	Income that flows into a country from people working or owning property abroad, it is an important source of income for developing countries.
Framing	In the context of behavioural economics, how options or propositions are presented.
Framing	Refers to the way that options or propositions are presented, which can affect the choices that consumers make.
Free rider	An economic agent who receives the benefit from a public good but does not pay for it.
Free trade	Where nations can engage in international trade without facing 'protection' or 'trade barriers' from other countries.
Free trade agreement	An agreement between two or more countries whereby trade between the member countries occurs without (or with minimal) restrictions
Frictional unemployment	Where a person is unemployed for that period of time while they are moving from one job to another..
Fringe benefits	Non-monetary reward for contribution to the production process, such as a company car, use of credit card, etc.
Full employment	That level of unemployment that exists when the government's economic growth goal is being achieved or where the country is operating at full capacity. Cyclical unemployment is non-existent when the economy is experiencing full employment.
G1	Government current (consumption) expenditure) on goods and services that are not capital in nature.
G2	Government Investment Expenditure on goods that are of a capital nature, such as the building of roads and railways..
GBE	See Government Business Enterprise.
GDP	See Gross Domestic Product.
GDP per capita	See GDP per person.
GDP per person	GDP divided by the size of the population (also referred to as GDP per capita).
Gender equality	When people are able to access and enjoy the same rewards, resources and opportunities regardless of gender.'
Genuine Progress Indicator (GPI)	An indicator of national well being that seeks to overcome the difficulties associated with the use of GDP as a measure of overall living standards for a nation. It takes into account a host of other factors not taken into account by GDP estimates, such as the social costs associated with unemployment, crime, problem gambling, excessive work, natural resource depletion and pollution.
Gini coefficient	Derived from the Lorenz curve, a number between zero and one, providing an indication of the degree of inequality in the distribution of income. As the coefficient approaches zero, equality improves.
Global Financial Crisis (GFC)	The crisis affecting the financial systems of many countries over 2007-8 caused by excessive (unsustainable) borrowing and lending and the large losses sustained by financial institutions once asset markets (e.g. property) crashed. Resulted in huge reduction in global liquidity (lending) as financial institutions became much more risk averse and plunged many of the world's major economies into recession.
Global market place	A worldwide trading system that has resulted from globalisation, in which goods and services are produced in a country of lowest costs, and sold globally.
Global system of production	An increasingly common phenomenon as a result of globalisation, whereby production takes place across a number of different locations, with some goods and services produced through a series of processes divided up between various geographic locations.
Glut	Where the quantity supplied exceeds the quantity demanded (surplus or excess supply).
GNE	See Gross National Expenditure.
Goods	Physical items of value that are traded in markets.
Goods and services tax (GST)	A broad-based consumption tax introduced in Australia in 2000 and currently applied at a rate of 10% on most goods and services.
Government	An organisation made up of people who are typically elected to represent the interests of society (or constituents) and govern a region. The government has responsibility for making and enforcing laws as well as the management of the economy.
Government Business Enterprise	A business owned and operated by the government (e.g. Australia Post). Sometimes referred to as a Public Trading Enterprise.
Government Expenditure	Expenditure by all areas of government (Federal, State and Local) and commonly broken up into G1 and G2.
Government failure	The undesirable situation where government intervention in the market leads to a less efficient allocation of resources.
Gross Domestic Product (GDP)	The final market value of all goods and services produced in the Australian economy over a given period of time. It is the same as the total 'value added' during each stage of the production process and is calculated every quarter by the ABS.
Gross income	Private or market income in addition to the direct cash benefits received from governments.
Gross National Expenditure	Total expenditure by Australians on goods and services produced in Australia and the rest of the world.
Gross National Income (GNI)	The income measure which includes GDP plus foreign remittances. It is considered to be a better measure of development than GDP per capita, for poorer countries.
GST	See Goods and services tax.
Hard core unemployment	Where a person is unemployed due to mental, physical or other characteristics that prevent them from receiving a job offer.
Hard paternalism	Involves traditional approaches to influencing consumer behaviour such as imposing sanctions, including the use of heavy financial penalties, or even removing choice altogether by imposing outright bans on the consumption of certain products. Shoves and smacks are synomous with hard paternalism
	The cost to businesses of employing labour, including the wages or salaries paid to employees, plus any additional costs associated with their employment, such as superannuation, Workcover, payroll taxes and sick leave.
Headline inflation	See Headline rate of inflation.

Headline rate of inflation	The rate of inflation as captured by price movements of all goods and services contained in the CPI.
Heavily-indebted poor countries	A group of 39 poor, developing countries whose level of debt is so great that they are eligible for special arrangements to reduce their debt burden. These arrangements are administered by the World Bank and IMF.
Henderson poverty line	A benchmark level of income for various household sizes, below which, a household is considered to be living in relative poverty.
Herd behaviour	Where consumers follow what other people doing instead of using their own information or making independent decisions.
Heuristic	A 'mental shortcut' or 'rule of thumb' used by consumers/people to speed up the decision making process.
Hidden unemployed	Those people who are not working but are not counted as unemployed because they have not sought work in the week prior to the survey. They are sometimes referred to as discouraged workers because ongoing rejection has led to them giving up on their pursuit of employment.
High Income Countries	The World Bank classification for countries whose annual GNI per capita is $12,476 and above.
Homo economicus	A Latin term meaning undo bold 'rRational economic man'. An assumption that states that consumers aim to maximise their utility by purchasing those goods and services that reflect their preferences.
Homogenous products	Products that are essentially the same or undifferentiated. For example, petrol is largely considered to be a homogenous product.
Household income	All current receipts, whether monetary or in kind, that are received by the household or by individual members of the household, and which are available for, or intended to support, current consumption.
House-price bubble	A situation where the price of property increases quickly and then falls rapidly. That is, the house price bubble eventually bursts. This is what happened in the U.S. property market prior to the Global Financial Crisis.
Human capital	The skills embedded in labour.
Human Development Index (HDI)	A composite statistic, that measures performance in three key dimensions of development – economics, health and longevity, and education, and provides a superior measure of development to GDP or GDP per capita.
Immigration	When people move and settle in another country that is not where they are citizens. From an Australian perspective, this means people who come here from other countries.
Import substitution	An approach to development that protects local industry, usually with high tariffs, to discourage imports and to promote local industry meeting the material needs of the country. Also refers to a trade policy that encourages countries to produce all the products they need in their economy, rather than importing them.
Imported inflation	Inflation caused by rising prices of imports rather than domestic price pressures.
Imports	Goods and services purchased by Australians that are made overseas.
Incentive	Something that induces an economic agent, whether a consumer or business, to act.
Income	Money that is typically received on a regular or recurring basis (e.g. wages and salaries, investment returns, profit shares, royalties, or government pensions or allowances).
Income tax	A direct tax that is paid to the government based on income earned.
Index numbers	Used by statisticians to provide a meaningful way to record movements in the price or value of items that are quite diverse in nature. For example, the consumer price index (CPI) or terms of trade index (TOT).
Indirect tax	A tax paid by economic agents via their purchases of goods and/or services (such as the GST). See also Direct tax.
Industrial dispute	When employees and employers are in dispute over the setting of wages and/or conditions at workplaces.
Industrialisation	The development of industry (including factories and manufacturing) on an extensive scale, which replaces agriculture as the major focus of economic production.
Industry assistance	The government providing some form of financial (or other support) to local industries.
Industry policies	Any government policy that seeks to promote the development of local industries. A part of the government's aggregate supply policies.
Inelastic	Refers to either a demand or supply curve where the responsiveness of demand (or supply) to a change in a variable (e.g. price) is low.
Infant industry argument	Where relatively young industries are protected from low priced competition, through the use of tariffs. Once the local industry develops, the tariffs are then removed.
Infant mortality	Children dying under the age of one. A high rate of infant mortality usually coincides with lack of economic development.
Inferior goods	Goods whose demand will tend to decrease with an increase in disposable income.
Inflation	A sustained increase in the general or average price level over time.
Inflationary expectations	The expectations of future price increases by economic agents.
Informal sector	The sector of the economy that is not monitored or taxed by the government, and which is very large in many developing countries.
Information and communication technology (ICT or IT)	Technologies that provide access to information through telecommunications, including the Internet, wireless networks, mobile telephones, and other means of communication. A major driver of economic globalisation.
Infrastructure	Capital items or networks that enable society (and economies) to function effectively. Infrastructure items like roads, telecommunication networks, ports and electricity grids provide the foundation for economic activity to take place. Infrastructure is often lacking in poorer countries.
Infrastructure	The basic facilities, services and structures of a society, including roads, rail lines, schools and hospitals, and often lacking in poorer countries.
Innovation	Developing better processes, goods and services.
Integration (of the global economy)	Increasing connectedness, or linking together, of the global economy, leading to increased economic interdependence between nations.

GLOSSARY OF TERMS

Intellectual property	A creation of the mind.
Interest rates	The cost of borrowing money or the rate of return from lending money.
International capital flows	The movement of money across international borders, for the purpose of investment, trade or business production.
International competitiveness	The degree of competition that exists amongst different countries (and their producers) in the quest to increase world market share. An improvement in Australia's international competitiveness means that Australian firms or industries are producing goods and services at relatively lower prices or higher quality compared to competitors overseas.
International division of labour	Where the tasks in the production process are broken down and divided up, and workers are assigned particular stages or tasks in that process, with the relocation of many labour-intensive jobs to low-wage countries.
International Investment Position	See Net International Investment Position
International Monetary Fund (IMF)	The global organisation responsible for ensuring the stability of the global financial system, including by acting as a lender to help countries meet their external financial obligations during times of crisis, and providing technical assistance and policy advice for governments. The IMF is also responsible for providing debt relief to heavily-indebted poor countries (HIPCs).
International transactions	The receipt and payment of money for the sale and purchase of goods and services (including labour and financial capital) in international markets.
Inter-temporal efficiency	How well resources are allocated over different time periods. For example, inter-temporal efficiency is not achieved if too many resources are devoted to current consumption (i.e. if there is insufficient savings or investment for the future).
Investment expenditure	The purchase of new equipment and plant, buildings and vehicles, as well as the addition to inventories (or stock).
Job vacancy rates	The rate at which job vacancies exist in the economy – compared to previous periods. An indicator of the strength of the jobs market, with high vacancies suggesting a tight or strong labour market.
Junta	A Spanish word meaning a military group in charge after a coup (which is a sudden, illegal overthrowing of a government, typically by the military.)
Keynesian economics	A branch of economics associated with a famous British Economist, John Maynard Keynes (1883-1946) who argued that governments had a crucial role to play in manipulating Aggregate Demand in order to 'smooth the business cycle' (e.g. stimulate economic growth and reduce unemployment during economic downturns).
Kyoto protocol	The protocol came into force in early 2005 with the majority of United Nations member countries signing the protocol and Australia committing to the protocol in March 2008. The protocol provides for all signatories to commit to a reduction in greenhouse gas emissions by 5.2% on average over the period 2008-12 (from 1990 levels).
Labour	Mental and physical effort exerted by humans in the production process.
Labour cost advantage	Occurs when a country's average cost of labour is lower than other countries.
Labour costs	The cost to businesses of employing labour, including the wages or salaries paid to employees, plus any additional costs associated with their employment, such as superannuation, Workcover, payroll taxes and sick leave.
Labour force	All those people aged 15 and over who are willing and able to work; it includes the employed and the unemployed.
Labour force casualisation	A process whereby more and more of the workforce is employed under casual conditions, which is where a job attracts an hourly rate of pay, but very few of the other rights and benefits associated with permanent employment, such as paid leave and notice up of dismissal.
Labour force survey	A research instrument used by the Australian Bureau of Statistics to determine the unemployment rate and the participation rate.
Labour force underutilisation rate	The proportion of the labour force who are unemployed or underemployed.
Labour intensive production	Production processes that require a large amount of labour input, relative to the amount of capital used.
Labour market deregulation	The general shift away from a centralised system of industrial relations to one that is less centralised or regulated, where wages and conditions are more closely tied to performance or economic conditions at workplaces. Also see Labour market reform.
Labour market reform	A microeconomic reform process involving changes to the arrangements for negotiating and setting pay and conditions and the extension of enterprise bargaining, with an emphasis on productivity-linked pay.
Labour Price Index	A price index that measures the change in the price of labour over time.
Labour productivity	A measure of the output produced (GDP) per hour worked.
Laissez faire	The belief in the superiority of free markets as a means of allocating resources and raising society's living standards. The origin of the term is from the French 'to leave alone'.
Land or natural resources	Resources that occur in nature and that can be utilised in the production process to generate more elaborate products or consumed in their raw form.
Law of demand	As the price of a product increases the quantity demanded will tend to decrease. Conversely if the price of the product decreases, the quantity demanded will tend to increase.
Law of diminishing marginal utility	Where each additional (or marginal) unit of a good or service consumed generates less utility than the previous one.
Law of supply	As the price for a good or service increases, there will generally be an increase in the quantity supplied. Conversely if the price of the product decreases, the quantity supplied will tend to decrease in response.
Least developed countries	The countries that have low GDP per capita that are usually burdened with high national debt, high infant mortality and shorter life spans. They are less industrialised than other nations in the world.
Living standards	The aggregate welfare of people in a country like Australia, made up of both material factors (such as access to goods and services) and non-material factors (such as quality of life).

Local content rules	Protectionist measure where government mandates industries contain a minimum amount of local content. Common in broadcasting.
Long run	That period of time that is far enough away to have a small(er) influence on today's decision making. Usually more than one year. Contrast with short run.
Looser monetary policy	A decrease in the target cash rate by the RBA which works to reduce interest rates more generally.
Lorenz curve	A diagrammatical representation of the degree of equality in the distribution of income.
Loss aversion	A cognitive bias whereby consumers feel losses more acutely than equivalent gains.
Loss aversion	A cognitive bias whereby consumers feel losses more acutely than equivalent gains.
	Immigration minus emigration.
Low Income Countries	The World Bank classification for countries whose annual GNI per capita is $1,025 or less.
Low Income Countries	The World Bank classification for countries whose annual GNI per capita is $1,045 or less.
Low-labour cost country	Countries where the costs of labour are, on average, lower relative to labour costs in more industrialised, developed countries. Current low labour cost countries include China, India and Bangladesh.
Luxury	A good or service that is not a necessity and whose demand tends to increase as income increases to high(er) levels.
Macroeconomic demand management policies	Policies that are designed to influence economic activity through the manipulation of Aggregate Demand. These policies are essentially monetary and budgetary policies.
Macroeconomics	The study of the economy as a whole focusing on aggregate variables such as national income, production and expenditure (real GDP), inflation, unemployment, the current account deficit and net foreign debt. It is therefore concerned with the "big picture" of how the economy works and how the government may influence the level of economic activity through the use of aggregate demand and aggregate supply side policies.
Manufacturing	The process of creating or making goods (not services), usually on a large scale using machinery.
Marginal propensity to consume	Measures the change in consumption that would result from a one dollar increase in income. (A number between zero and one).
Marginal utility	The satisfaction that consumers gain from consuming an additional unit of a good or service.
Market	Any place (which may or may not be a physical space) that allows buyers and sellers to interact and exchange goods and services.
Market (capitalist) system	A type of economic system that allocates resources based on the buying and selling decisions of consumers and producers. Prices give signals which influence the behaviour of these buyers and sellers.
Market based approaches	Involves governments providing businesses and consumers with financial incentives to produce or consume goods and services in a way that addresses market failures or takes into account wider economic net benefits.
Market capitalisation	The total market value of all of a company's shares.
Market capitalism	A system where the market allocates resources based on the buying and selling decisions of consumers and producers and where the majority of productive resources are owned by private individuals and firms.
Market concentration	The degree of competition in a market as measured by the number of firms competing and their respective shares of the market. High concentration in a market signifies a small number of firms controlling the market (see monopoly and oligopoly).
Market equilibrium	When the demand for a good or service is equal to the supply of a good or service at a particular price.
Market failure	When an unregulated market is unable to allocate resources efficiently or where resources are allocated in such a way that national living standards or welfare is not maximised. It will result in an over allocation of resources to the production of some goods and services (i.e. over-production) and/or an under-allocation to others (i.e. under-production).
Market income	Also referred to as private income. Income that is received in the market place primarily as a result of one's contribution to the production process (factor income), plus private transfers (e.g. child support payments).
Market power	The ability of any particular business (or group of businesses) to control or manipulate prices or quantities in a market.
Market share	The percentage of total sales achieved by a business in a particular market.
Market socialism	An economic system where the government owns most of the resources but markets determine what goods and services are ultimately produced.
Market structure	The way different industries are organised in terms of the numbers and type of buyers and sellers and the conditions under which they exchange. Market structures range from ones that are highly competitive (e.g. perfect competition) to ones that are highly uncompetitive or highly concentrated (e.g. monopoly).
Market-oriented economy	An economic system in which prices are determined by the price mechanism, the laws of supply and demand, rather than by a government or other body.
Material living standards	Living standards as measured by access to goods and services.
Measures of Australia's Progress (MAP)	An indicator of national well being that seeks to overcome the difficulties associated with the use of GDP (or real GDP per capita) as a measure of overall living standards for a nation. It takes into account a host of other factors not taken into account by GDP estimates, such as the social costs associated with unemployment or crime.
Medium Income Countries	The World Bank classification for countries whose annual GNI per capita is greater than $1,045 but less than $12,736. Within the Medium Income Countries classification, the World Bank differentiates between Lower-Middle Income countries with GNI per capita above $1,045 and less than $4,125, and Upper-Middle Income countries with GNI per capita of more than $4,125 but less than $12,736.
Mercantilism	An early period of global economic integration when colonising European nations extracted natural resources from their colonies, transformed them and resold them at high prices.
Mergers and acquisitions	When two or more firms join as one (merger) or when one firm purchases and controls another (acquisition). These are sometimes prohibited under competition law if they substantially lessen competition in a particular market.
Merit goods	Goods and services that are in the nation's best interest but are unlikely to be produced in sufficient quantities, such as health, education and libraries. Similar to public goods.

GLOSSARY OF TERMS

Micro-credit	Loans of very small amounts to very poor borrowers in developing countries, who use the money to start or expand very small businesses .
Microeconomic reform policies (MRPs)	Government reforms that seek to improve the structure and operation of markets (or industries) in an effort to achieve a more efficient allocation of resources.
Microeconomics	The study of the individual parts of the economy that interact to make up the whole economy.
Migrant transfers	Part of the Current Account in the BOP that includes the receipt of funds when migrants settle in Australia or the payment of support to the relatives of migrants.
Millennium Development Goals	The name for a collection of eight global development goals established in 2000, which aimed, among other goals, to halve global rates of poverty.
Minimum wage	The minimum allowable rate of pay in Australia ($606.40 per week in 2012).
Misleading and deceptive conduct	When businesses mislead or deceive consumers to purchase a product based on false claims or promises.
Monetary policy	A policy operated by the RBA on behalf of the government and involves the manipulation of key financial variables in the economy (primarily interest rates) in order to achieve specific economic goals and ultimately improve the living standards or welfare for all Australians.
Monopolistic competition	An industry structure that is also highly competitive, with many similarities to perfect competition, but products are not homogenous (i.e. they are differentiated).
Monopoly	An industry or market that is dominated by one seller of a product and the product does not have a close substitute.
Monopsony market	A market situation where there is a single buyer for a product.
Moral hazard	The tendency of a person who is imperfectly monitored to engage in dishonest or otherwise undesirable behaviour. For example, people with insurance may take greater risks than they would do without it because they know they are protected, so the insurer may get more claims than they bargained for. Moral hazard occurs after the exchange.
Multibranding	Where individual companies market their products under separate and distinct brand names. For example, the Coca-Cola company producing numerous soft drink brands.
Multilateral foreign aid	Aid given via large international coordinating agencies like the World Bank, the UN Development Program, UNICEF, or the World Food Program.
Multinational corporation (MNC)	A corporation that is based in one country but operates across a number of different countries. Also known as transnational corporations (TNCs).
Multiplier effect	When an initial change in aggregate demand causes a much larger increase in production as the income cycles through the economy.
NAIRU	Acronym for the Non Accelerating Inflation Rate of Unemployment which involves the attainment of the lowest unemployment rate possible before inflation begins to accelerate (approx. 4.75% U/E).
National Competition Policy	A microeconomic reform policy designed to increase competition and/or competitive pressures in the economy in order to raise productivity, reduce prices, and increase competitiveness.
National Reform Agenda	State and Commonwealth government agreement designed to undertake social and economic reform of the Australian economy.
Nationalisation	The process whereby the government of a country takes over ownership of private enterprises. It is the reverse of privatisation.
Natural unemployment	A broad term to encompass those forms on unemployment caused by factors other than a lack of aggregate demand, and includes structural, seasonal, frictional and hard-core unemployment.
Necessity	A good or service that it is needed by consumers.
Negative externalities in consumption	When the consumption of a good or service imposes a cost on a third party or bystander.
Negative externality	When the production or consumption of a good or service results in a cost to a third party not involved in the transaction. Sometimes referred to as 'spillover' costs or social costs of production or consumption.
Net benefits	Benefits less costs. Can be either positive or negative.
Net exports	Exports minus imports.
Net Foreign Debt (NFD)	The amount of money that Australia owes to overseas nations minus the amount overseas nations owe to Australia.
Net Foreign Equity	The level of foreign ownership in Australia minus the amount Australians own overseas.
Net foreign liabilities	The net value of financial obligations that Australia has to the rest of the world. It includes net foreign debt (NFD) and net foreign equity (NFE).
Net International Investment Position	The value of Australia's net international financial obligations to the rest of the world. This is made up of Australia's stock of net foreign liabilities (NFLs), which is made up of both net foreign debt (NFD) and net foreign equity (NFE).
Net Overseas Migration (NOM)	Immigration minus emigration.NOM will be positive if more migrants enter the country than leave the country and the reverse is true if NOM is negative.
NFD	See Net foreign debt.
NFE	See Net foreign equity.
NINJA	A borrower with No Income, No Job or Assets i.e. a sub-prime borrower.
Nominal	A given value of any variable (such as income) which has not been adjusted for any inflationary impact.
Non-government organisations (NGOs)	A not-for-profit organization that is independent from states and international governmental organizations. In the context of economic development and foreign aid, some NGOs receive money from country governments to run development and assistance programs in poorer countries on behalf of the government (as part of the developed country's foreign aid commitment).
Non-material living standards	The aspects of a person's quality of life that cannot be measured by monetary factors.

Normal goods	Goods whose demand will tend to increase with an increase in disposable income.
Normal profit	A profit level that is just sufficient to provide incentive for existing businesses to continue operating. Profits below this level are likely to encourage firms to exit the industry (called abnormal losses) and prices above are likely to encourage firms to enter the industry (called abnormal profits).
Normative economics	Statements or claims that are based on opinion or value judgements
Nudge	Subtly coaxing people into making good choices without having to resort to heavy financial incentives or sanctions.
Official Development Assistance (ODA)	The official name for overseas aid by country governments. For example, the type offered by the Australian Federal Government.
Offshoring	A process whereby jobs are relocated overseas, sometimes by outsourcing to another company, but sometimes by directly relocating company operations to an overseas location.
Oligopoly	An industry where a few (very large) firms tend to dominate the industry in terms of market share and volumes sold and there is limited competition.
OPEC	Organisation of Petroleum Exporting Countries.
Opportunity cost	The value of the next best alternative that is foregone whenever a choice is made. Sometimes referred to as economic cost.
Optimal level of inequality	A point where the total social and economic benefits of inequality - at the margin - just outweigh the total costs. Any movement away from this 'optimal level of inequality' will result in a deterioration of national living standards.
Outsourcing	When firms hire external contractors to perform a key component of their operations. For example, firms may hire external consultants in Australia or outsource the manufacture of their goods to cheaper providers overseas. Also see contracting out.
Overconfidence bias	Where consumers often overestimate their ability to make good decisions.
Overnight money market	The market for overnight funds. See cash market.
Overpopulation	One of the causes of poverty in developing countries that results from a population too large to be well supported by the productive resources and capacity of the country.
Parallel import restrictions	Protectionist measure where government restricts imports of products copyrighted in Australia e.g. books with Australian publishers holding copyright cannot be imported from overseas.
Participation rate	The percentage of the total 'working age' population (over 15) that is a member of the labour force.
Patent	A legal protection that guarantees the creator of ideas the rights to their own ideas.
Peak Oil	The point of time when half the world's oil supplies have been extracted. After this point, it generally becomes more difficult and more expensive to extract oil.
Perfect competition	A market structure where there are: many buyers and many sellers, homogenous products, freedom of entry and exit to the market, perfect information, high mobility of resources and where producers seek to maximise profit whilst consumers seek to maximise utility.
Perfect information	where economic agents know everything they need to know to make the optimal decisions. Economists often build theories or models of the economy based on the assumption of perfect information. Contrast with asymmetric information.
Personal income tax	Taxes paid by individual income earners.
Planned Capitalism	An unusual economic system may evolve whereby the government directs the owners of productive assets to produce certain goods and services.
Planned Socialism	An economic system where the governments makes long and short-term plans about what to produce, how to produce it and who gains the produce after it is produced. The majority of productive assets are state owned (owned by the people of the country collectively).
Portfolio investment	Less than 10% investment in shares and/or net debt flows between countries.
Positive economics	Fact-based economic statements
Positive externalities in consumption	When the consumption of a good or service provides a benefit to a third party or bystander.
Positive externality	When the production or consumption of a good or service confers a benefit to a third party not involved in the transaction. Sometimes referred to as 'spillover' benefits or social benefits of production or consumption.
Poverty	Poverty is the deprivation of food, shelter, money and clothing that occurs when people cannot satisfy their basic needs. A reduction in the number of people in a country living in this negative state is often a consequence of globalisation.
Poverty trap	A state that poor countries can end up in because a lack of savings means they cannot fund the necessary investment to develop their economy and climb out of poverty. Sometimes also called a poverty cycle.
Predatory pricing	The illegal act of charging low prices (usually below cost) in order to drive a competitor out of the market. Once the competition has been removed, the business is then free to charge excessive prices.
Preferences	Consumers likes and dislikes.
Preferential treatment	Protectionism measure where government may choose an Australian provider over a foreign supplier, irrespective of which provider is more competitive.
Present bias	A cognitive bias where people tend to overvalue the present and undervalue the future.
Price discrimination	Where a business charges consumers different prices for the same product.
Price elasticity of demand	The responsiveness of quantity demanded to a change in price.
Price elasticity of supply	The responsiveness of quantity supplied to a change in price.
Price mechanism	Refers to the way changing market conditions, and the resulting movement in relative prices, coordinate the way resources are allocated within the economy.

GLOSSARY OF TERMS

Price signal	Where firms in a market signal their pricing decisions to their competitors in order to limit competition and therefore maximise profits. The process whereby price changes for various goods and services (caused by changes in demand-side and/or supply-side factors) indicate (i.e. signal) to consumers or producers that a change in their consumption or production patterns are in their best interests which then leads to a change in the allocation of resources.
Price taking	Occurs in competitive markets where there are a large number of buyers and sellers in a market and each of them has little influence or power to manipulate prices. Businesses must take whatever price is determined in the market place.
Price-earnings ratio	The share price divided by the company's earnings per share for a given period of time such as 12 months. It conveys how much investors will pay per share for $1 of earnings and is an indication of a share's worth or value
Primary income	The reward for owning assets in a foreign country, which includes interest payments, rent, and dividends.
Primary sector	The sector of the economy involved in the sale of goods that are in their natural state. Includes unprocessed goods (e.g. minerals) or processed goods (e.g. cheese and wine)
Principal	In relation to debt, the amount borrowed. As distinct from interest which refers to the servicing (paying for the service) of the debt. See debt servicing.
Private goods	These are goods or services that are opposite in nature to public goods as they are both excludable and rival (depletable) in consumption.
Private income	Also referred to as market income. Income that is received in the market place primarily as a result of individuals supplying their labour (including entrepreneurship) to the business sector.
Private sector	Private ownership and control of resources, and the economic decisions made by the owners of these resources.
Privatisation	When a Government Business Enterprise (GBE) is sold to the private sector.
Privatisation	The process of transferring or selling off GBEs to the private sector.
Processes	A series of operations performed in the making, treatment or transformation of a product (good or service).
Procrastination bias	The tendency for consumers to delay or put off making decisions.
Producer surplus	What producers receive if they are able to sell the product at a price above that at which they would have been willing to sell. For example, if a supplier of housing was willing to sell a house for $500,000 and a buyer purchased the house for $600,000 then the seller has enjoyed a producer surplus of $100,000.
Producers	Economic agents who are involved in the production process via the provision of goods or services.
Product differentiation	The process of businesses (particularly under monopolistic competition) seeking to make their product unique in some respects, such that consumers believe it is has no (or fewer) substitutes.
Production	The process of converting resources and inputs into goods and services, or the total volume (or value) of goods and services produced over a given time period.
Production possibility curve (PPC)	See Production possibility frontier.
Production possibility diagram	See production Production possibility frontier.
Production possibility frontier (PPF)	A diagram illustrating the choices or options available when deciding how to allocate scarce resources. Any allocation of resources to the production of certain goods and services will mean that an alternative combination cannot be achieved. It is often used to illustrate the concept of opportunity cost.
Productive capacity	The potential output of the economy. Also considered to be the real value of production (or real GDP) that will occur when the economy produces at its maximum level possible.
Productivity	The volume of output (e.g. real GDP) that is produced from a given number of inputs (e.g. labour and capital resources). It refers to how well our factors of production combine to produce goods and services.
Productivity growth	When productivity increases from one period to the next. Usually expressed in percentage terms. For example, productivity growth of 2%.
Products	Goods and services available for purchase in the market place.
Profit	When revenue (e.g. sales) exceeds expenses (or costs of production)..
Profit margin	The difference between sales price and the cost price of a product (or the difference between sales revenue and a measure of costs).
Progressive tax	A tax that collects proportionally more from higher income earners compared to lower income earners. It involves the rate of tax increasing as income increases. For example, Australia's income tax system is progressive in nature.
Proportional tax	A tax that collects proportionally identical amounts from all income earners. It involves the rate of tax remaining the same for all taxpayers. For example, the company tax in Australia is a proportional 30% of profits.
Protection	Efforts by governments to protect local import competing producers from the threat of imports. It is commonly implemented via tariffs, quotas and subsidies.
Protectionism	An approach to international trade that imposes barriers to trade, including tariffs and quotas, in order to protect their local industries from international competition.
Public goods	Goods or services that are both non-excludable and non-rival (non-depletable) in consumption. A person who does not pay for the good cannot be excluded from consuming it and one person's enjoyment does not lesson another's enjoyment. These goods and services are in the nation's best interest but are unlikely to be produced at all, such as defence, prisons, and lighthouses.
Public sector	Government ownership and control of resources, and the economic decisions made by the government and its agencies.
Public sector	All levels of government, federal, state and local combined.
Public Trading Enterprise	See Government Business Enterprise (GBE).
Purchasing power	The ability of cash, money or income to acquire goods and services. This erodes over time with inflation.
Quarterly rate of economic growth	The rate of economic growth over one of the four quarters of the year, comprised of the March, June, September and December quarters.

Quotas	A form of 'protection' involving controls or limits on the volume of imports entering the country.
Rationality	the notion that consumers act in their self-interest to maximise their utility or satisfaction given their budget (or income) constraint
Real	A given value adjusted for any inflationary impact. E.g. real wages or real GDP.
Real income	The reward from direct and indirect contribution to the production process (in a monetary sense) after accounting for the impact of changes in the general level of prices. It measures purchasing power.
Rebate	when part of the original payment for a good or service is returned to the buyer. They are often a form of incentive used by the government.When part of the original payment for a good or service is returned to the buyer. Rebates are a form of incentive used by the government.
Recession	A period of very low rates of growth in production (or real GDP) and relatively high (or increasing) rates of unemployment. It occurs at the lowest point in the business cycle and is 'technically' defined as two successive quarters of negative economic growth.
Recovery	A pick up (or return to normal) levels) of economic activity.
Reference dependence	See anchoring effect
Regressive tax	A tax that collects proportionally more of a lower income earner's income compared to a higher income earner's income. It involves the rate of tax decreasing as income increases.
Regulations	Rules that mandate or prohibit certain behaviour or actions.
Relative poverty	A situation where a person or a household has a low level of income compared to other individuals or households in society or compared to a generally agreed standard. See Henderson poverty line.
Relative price	The price of one good or service divided by (or in comparison to) the price of another good or service. Changes in relative prices send clear signals to producers and consumers and determine where resources will be allocated in the economy.
Relative scarcity	A situation where resources are limited compared to the demands placed upon those resources via wants and needs.
Relative wage	The monetary reward for one profession or job compared to the monetary reward in another.
Repatriate	When the profits earned by a corporation in a foreign country are brought back into the country of origin of the corporation. For example, an MNC based in the United Kingdom may repatriate profits from the operations of a subsidiary in Zambia.
Resource allocation	The process of allocating scarce factors of production among alternative areas of production. In market-based economies such as Australia the forces of demand and supply perform this function, with some government intervention.
Resources	The factors of production such as natural, labour and capital resources.
Restrictive policy	See contractionary policy.
Revenue	Money received from the sale of goods and services, calculated by multiplying the price of a good or service by the number of units sold.
Sanctions	Measures adopted, usually by several nations acting together, to restrict trade or interaction with a nation that is violating international law or committing human rights violations, with the hope it will cause the nation to improve its behaviour.
Satisficing	Where consumers make decisions that are good enough.
Savings	Disposable income less consumption expenditure.
Scarcity	See Relative scarcity.
Screening	An action taken by an uninformed party to induce an informed party to reveal information.
Seasonal Unemployment	When a person does not have a job at the same time each year, because the type of employment available only occurs seasonally (such as ski instructing or fruit picking).
Secondary income	The transfer of money from one country to another. There is no exchange in these transactions, and includes foreign aid payments.
Secondary Sector	The sector of the economy involved in the sale of goods that have been further processed via manufacturing. Includes Simply Transformed Manufactures (STM) such as basic metals and Elaborately Transformed Manufactures (ETM) such as electronic equipment.
Services	Non-physical (i.e. intangible) items of value traded in markets. They are distinct from goods and include things like the provision of education, health care and financial advice.
Short run	A period of time that is close enough to heavily influence decision making today (usually within one year).
Shortage	Where the quantity demanded exceeds the quantity supplied (excess demand).
Skilled migration	The migration of individuals who possess skills that are valuable to the host economy.
Skills shortages	A situation that arises when the economy approaches full capacity. Certain occupations have a shortage of labour when compared to the demand for that labour.
Social benefits	Benefits enjoyed by a country that are non-economic in nature, such as the benefits of education that are related to positive externalities and the social harmony that may accompany a society with a more 'equal' distribution of income. See Social costs.
Social costs	Costs borne by a country that are non-economic in nature, such as the depletion of natural resources related to negative externalities and the social unrest that may accompany a society with huge inequity in the distribution of income. See Social benefits.
Social norms	Rules and standards that are understood by members of a group, and that guide or constrain social behaviors without the force of law

GLOSSARY OF TERMS

Social Safety Net	A form of social welfare services provided by the state that may include pensions, unemployment benefits, disability support and subsidised housing and services. Lack of the existence of a safety net in (poor) countries often leads to larger families, because parents need several children to support them in their old age.
Socialism	An economic system where the majority of productive assets are state owned (owned by the people of the country collectively) and therefore no one can benefit excessively from producing goods and services.
Soft paternalism	Where the government uses nudges to change people's behaviour.
Sovereign indebtedness	The debt incurred by governments (as distinct from the private sector made up of households and businesses) when government spending exceeds government revenue, resulting in a budget deficit that requires financing, some of which usually comes from other countries.
Special economic zone (SEZ)	Discrete geographic regions that have been set up within a country with the express purpose of attracting foreign investment and foreign-owned production. These zones have special, and more liberal, economic laws and economic arrangements (such as taxation concessions) that are less restrictive than those in the rest of the country.
Stagflation	Periods of low economic growth, high unemployment rates and high inflation rates.
Statistical framing	A type of framing that relies on statistics comparisons and numerial values to influence consumer decisions.
Status quo bias	The tendency for consumers to stick with a particular choice even though the decision to do so is no longer in their self- interest.
Strong and sustainable economic growth	The highest growth rate possible, consistent with strong employment growth, but without running into inflationary, external pressures or environmental pressures.
Structural adjustment	Conditions often imposed by the World Bank and IMF before a loan will be given, that require recipient countries to reduce the amount of state intervention in their economy.
Structural change	Changes to the structure of industries (such as a greater ratio of capital to labour employed). Normally is caused by changes in technology, or changes in market trends.
Structural reform	See Structural change.
Structural unemployment	Where the skills of the unemployed do not match the skills required by industry, resulting in unemployment.
Sub-prime loan	Sub-prime loans (mortgages) are loans made to borrowers who have a history of either being late with loan repayments, or defaulting on loans. In the lead up to the Global Financial Crisis, the provision of sub-prime loans was financed by mortgage lenders selling bonds that offered high returns and came with the implied security of AAA ratings from ratings agencies.
Subsidiary	An enterprise controlled by another (called the parent company), through the ownership of more than fifty per cent of the company.
Subsidy	A benefit to producers commonly as a cash payment or tax concession (typically provided by governments).
Subsistence	A way of living where people grow food for consumption by themselves and their families, and this produce is never recorded as part of national production.
Substitute	A good or service that serves the same (or similar) purpose as another good or service (e.g. Coke and Pepsi are substitutes).
Super tankers	A very large ship, used for transporting very large volumes of cargo, including oil and other liquids. The increasing size of tankers has allowed an acceleration of economic globalisation through increased capacity for exports.
Superannuation	A form of retirement savings that cannot be accessed until the retirement of an income earner from the workforce. This savings vehicle receives generous tax support from the federal government and employers are compulsorily required to contribute 9% of workers' wages into their superannuation accounts.
Supernormal profits	Where businesses are making more than enough profit to justify ongoing supply to that market. That is, businesses are making more than 'normal profits'. Also referred to as 'abnormal profits',
Supply factor	A factor that causes changes in economic activity via its impact on AS.
Surplus	Where the quantity supplied exceeds the quantity demanded (excess supply or glut).
Sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Tariff	A form of 'protection' involving a tax on imports.
Tax base erosion	Refers to the size of the tax base (the value of income or assets on which governments levy taxes) shrinking. One recent identified cause of this is profit shifting by MNCs. The OECDs Base Erosion and Profit Shifting project is designed to arrest this erosion.
Tax concessions	The government providing taxpaying entities with the ability to reduce their assessable income and tax liability. Includes tax rebates or allowances provided by governments allowing businesses to reduce their effective tax liability. A form of government assistance.
Tax incentives	The offering of exemptions from paying tax, or special deductions, offered as an enticement to companies to engage in a particular type of investment or activity. For example, country governments wishing to increase foreign investment in their economies often offer tax incentives, including exemptions from paying tax or reductions in tax rates, to encourage MNCs to establish operations in their countries.
Tax refund	An amount of money that is paid back to an income earner or an entity such as a company when they have paid too much tax. This typically occurs at the end of the financial year.
Technical efficiency	When it is not possible to increase output without increasing inputs (resources). Therefore the most technically efficient point of production occurs where productivity is at a maximum and where average costs are at a minimum.
Technological efficiency	See Technical efficiency.

Technology	One of the key drivers of increased globalisation, that includes increased ecommerce and access to the Internet.
Terms of trade (TOT)	The ratio of export prices to import prices.
Tertiary Sector	The sector of the economy involved in the sale of services (such as health and education services)
The Balance on Merchandise Trade	Part of the Current Account of the BOP that is made up of merchandise (i.e. goods) export receipts or credits minus merchandise import payments (debits), such as the sale or purchase of manufactured goods.
The 'Cloud'/ cloud computing	The use of computing resources that are delivered as a service over a network, usually the Internet. Cloud computing entrusts a remote service with the user's data, computation and software. The data is stored on a remotely located server that often serves a number of clients.
The 'Cloud'/ cloud computing	The use of computing resources that are delivered as a service over a network, usually the Internet. Cloud computing entrusts a remote service with the user's data, computation and software. The data is stored on a remotely located server that often serves a number of clients.
Tighter monetary policy	An increase in the target cash rate by the RBA which leads to an increase in general interest rates.
TOT	See Terms of Trade.
Total utility	The total satisfaction that consumers gain from consuming goods and services.
Tradables (or tradeables) sector	That sector of the economy that competes against foreign produced goods and services. It includes exporters and import- competing businesses.
Trade liberalisation	The movement towards international trading relationships that are not subject to protectionist policies. Also defined as any government policy initiative that is designed to promote free trade, or reduce restrictions or barriers to free trade.
Trade Practices Act (1974)	The competition law that was superseded in 2010 by the Competition and Consumer Act (2010) and which was designed to promote competition and to prevent anti-competitive behaviour.
Trade Weighted Index (TWI)	The value of the Australian dollar when compared to a basket of currencies of our major trading partners.
Traded goods sector	See tradeables (tradables) sector.
Trade-offs	Foregoing the opportunity to gain something of value with our time or money once we use our time or spend money on some other activity (or goods and services).
Transfer income	Income that is transferred from one group to another, usually via the government. Common examples include pensions and unemployment benefits but it also includes non-government transfers such as money received in child support payments and superannuation receipts.
Transfer pricing	A way for MNCs to reduce their payment of tax by manipulating the prices charged for transfers of products between their subsidiaries in different countries.
Transnational corporations	See Multinational Corporations.
Trickle down theory	A theory suggesting that a way to boost economic growth in a country (and therefore living standards) is to minimise taxes on businesses and high income earners in order to promote efficiency and productivity gains. By encouraging business and wealthy households to invest, greater volumes of goods and services can be produced at lower prices, resulting in increased employment opportunities for middle and lower classes, increasing their purchasing power and material welfare.
Trough	A period of very low rates of growth in production (or real GDP) or the lowest point in the business cycle. See recessionRecession.
Tyranny of distance	A phrased coined by historian, Geoffrey Blainey, to identify the challenges faced by Australia as a result of its geographical remoteness from its coloniser (Great Britain) and its early major trading and strategic allies (e.g. Europe and the USA). To some extent, this disadvantage has been overcome through the rise of Asia and its increasing importance to Australia.
Underemployment	The underemployed are those individuals that are classified as employed, but who are at least partly unemployed in the sense that they would prefer to be working more hours than they are currently working. Also referred to as disguised unemployment.
Underlying rate of inflation	Sometimes referred to as the core rate of inflation. The rate of inflation that provides the best indicator of the predominant price pressures existing in the economy. Commonly measured by the RBA's trimmed mean and weighted median measures. See also 'CPI all groups excluding volatile items'.
Undernourishment	A state where people's intake of food is below the minimum level needed to meet their dietary energy requirements and perform basic tasks.
Underutilisation rate	Adding the unemployed to the underemployed and dividing by the size of the labour force. It represents the proportion of the total labour force that is 'underutilised.'
Unemployed	When someone is over 15, without work or working for less than one hour per week, and actively looking for (more) work.
Unemployment rate	The percentage of the labour force that is unemployed.
Unfair dismissal laws	Laws protecting employees from being unfairly dismissed. Revised unfair dismissal laws involve employees of some small businesses (less than 15 employees) being unable to rely on these laws for protection in certain circumstances.
unit labour costs	The cost of labour per unit of output which is made of actual labour costs (e.g. wages) as well as the producitivy of labour.
Unpaid work	When humans undertake production and there is no form of monetary reward. This is broken into household work and volunteer work.
Urbanisation	A process involving the physical growth of urban areas as a result of migration from the rural area into the cities. A common feature of economic development.

GLOSSARY OF TERMS

Utility	A measure of satisfaction, happiness or well-being.
Value adding	A process whereby cheap raw materials are converted into more valuable manufactures such as clothing, footwear, steel or whitegoods.
Variable costs	Costs of production that vary directly with the quantity of goods and services produced, including costs of raw materials, wages, packaging and shipping.
Veblen good	A good where the demand tends to rise when the price of the good increases. Based on a theory that suggests that as the price of a good increases, so too does the quantity demanded because of conspicuous consumption.
Virtual water	Used to refer to water used in the production of a good or service. When a country exports a product, in essence it also exports water, albeit in that virtual form.
Virtual workplace	A workplace that has multiple locations, where business is done over email, Internet and video. Employees within a company can communicate with each other and with customers through the use of ICT.
Vividness	Where consumers place too much weight on a small number of vivid observations when making
decisions.	
Wage differentials	The difference in wages between workers with the same types of skills across different locations or industries. With respect to globalization, the wage differential between low labour cost and high labour cost economies has been one of the key drivers of the relocation of labour-intensive industries to low labour cost locations.
Wage price spiral	The cycle of higher prices (or inflation) that causes an increase in nominal wages (as workers seek to protect their real wage) that in turn causes higher business costs and higher prices.
World Bank	The global organisation responsible for providing loans and grants to the governments of the world's poorest countries, often to finance infrastructure projects, with the goal of reducing global poverty and improving living standards around the world.
World Trade Organization (WTO)	The global organisation responsible for governing world trade, aiming to promote multilateral trade by removing obstacles to international trade and creating a level playing field for all countries. The WTO replaced the General Agreement on Tariffs and Trade (GATT) in 1995.

INDEX OF TERMS