ACADEMIC ASSOCIATES

STUDY GUIDE

ECONOMICS

YEAR 12 ATAR COURSE – UNITS 3 & 4

THIRD EDITION

Andrew Tibbitt

ACADEMIC ASSOCIATES

WACE STUDY GUIDE

ECONOMICS

YEAR 12 ATAR COURSE

Andrew Tibbitt

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About the Author
Andrew Tibbitt is an experienced teacher, having taught both WACE Economics and the International Baccalaureate Diploma whilst authoring a number of textbooks and journal articles. He is a life member of the Western Australia Economics Teachers' Association and been involved with syllabus development and assistant examiner.

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- World Bank for data for chart in Chapter 1.

TO THE STUDENT

This book is a Study Guide designed to help students meet the requirements of the Year 12 ATAR Economics Course.

Organisation

Economics is one of a number of human or social sciences whose aim is to investigate, understand and predict human behaviour. The central theme of economics is how societies go about raising the material standard of living or wellbeing of their members given a limited supply of resources.

The Year 12 syllabus is divided into two units; Unit 3 is titled Australia and the Global Economy and Unit 4 is titled Macroeconomic Theory and Economic Policy.

The focus of the Australia and the Global Economy unit is the connections between Australia and the rest of the world. Australia is a relatively open economy and, as such, is influenced by changes in the world economy. The main topics in Unit 3 are Australia's international trade, trade liberalisation and protection, the balance of payments, the terms of trade, exchange rates and foreign investment. Recent and contemporary economic data and appropriate economic terminology, theories and models are used throughout the unit.

The themes of the Macroeconomic Theory and Economic Policy Unit are Australia's macroeconomic performance and the business cycle, the aggregate expenditure model, the aggregate demand and aggregate supply model, fiscal policy, monetary policy and labour productivity. As in Unit 3, recent and contemporary economic data and appropriate economic terminology, theories and models are used throughout the unit.

The subject framework

There are a number of parts to the framework of Economics.

- **Concepts and language:** Concepts are thoughts, ideas or notions on which knowledge can be built. There are a number of key economic concepts such as opportunity cost, elasticity and a market. It is important to use correct economic terms when you share your economic understanding.
- **Mathematical and statistical techniques:** Simple mathematical and statistical techniques are used to measure and communicate economic information but the results are not always as precise as economists pretend.
- **Methodology:** Some economic knowledge is based on models that are simplified versions of the real world based on assumptions about how people behave and other factors affecting the situation. For example, economic people are assumed to be rational and to aim for maximum wellbeing. Economic theories are developed from these models, and, if the theories can be shown to be valid, they become economic laws. Other economic knowledge is based on generalisations made from the direct observation of human behaviour.
- **Personal knowledge:** Economists are directly involved in their subject, being both economic agents, as consumers and producers for example, and as individual members of society, so the observer is part of the system.
- **Knowledge issues:** Be prepared to find exceptions to many economic laws. When people exercise their free will in economic decision-making they act less predictably than economists assume will be the case. Their behaviour is also subject to a number of biases and heuristics (rules of thumb) that help shape their actions especially when they face information gaps. Also, in certain areas, there are rival models of economic behaviour that produce contradictory theories and predictions. These are all issues that make economics interesting.

Wishing you all the best for your studies and course,
Andrew Tibbitt

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ECONOMICS
UNIT 3

AUSTRALIA'S INTERNATIONAL TRADE

1

SYLLABUS CHECKPOINTS

- ☐ Australia's linkages between economies, including trade, investment, tourism and immigration.
- ☐ The extent and importance of trade for the Australian economy
- ☐ The composition and direction of Australia's trade
- ☐ Australia's trade policy including regional and bilateral free trade agreements.

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ESSENTIAL GUIDE TO AUSTRALIA'S INTERNATIONAL TRADE	
1	Australia's economy has become increasingly connected with other economies. At the heart of global integration are the four freedoms involving goods, services, capital and people. There are many other ways Australia is linked economically with the rest of the world including knowledge and technology transfers, connectivity, cultures, transportation, currencies and economic policies.
2	Australia's integration into the global economy has been made possible by a number of factors including: • reduced transport costs as a result of developments in transport technologies (e.g. use of containers and jet aircraft). • developments in communications technologies (e.g. internet, satellites, social media and mobile phones). • the development of supply chains through which inputs are sourced from around the world meaning that products are often part made in many countries. • changes in economic policy (e.g. supply side reforms) • encouragement of inwards foreign investment • changes in business organisation (e.g. multinational corporations) • economic growth in China and other East Asian countries such as Republic of Korea.
3	The pattern of trade has two elements, the direction of trade (the countries with whom we trade) and the composition of trade (the products that we trade). The two elements are closely connected.
4	There are two indicators of the level or extent of Australia's international trade. Trade openness is calculated by adding the value of exports and imports over a given time period and dividing this value by GDP. Recently the level of Australia's trade openness has been about 40%, a significant level but only middle-ranking compared to other economies.
5	Trade intensity is a more complex way of measuring a country's trading presence in overseas markets. Trade intensity is a comparison of how much a country (say Australia) exports to a trade partner (say, China) with how much the world as a whole exports to the same economy (i.e. China). Trade intensity = $\frac{\text{Share of a country's exports to the destination of interest}}{\text{Share of world's exports to the destination of interest}}$ For example, Australia is responsible for about 25% of total exports to China and about 10% of the world exports are sold to China, giving a trade intensity level of 2.5 or 250%. The trade intensity ratio has a range of values between zero and infinity. Values greater than 1 (or 100 if expressed as an index) indicate an intense, or higher than average, trade relationship. The higher the value the more intense is the trade relationship.
6	Trade intensity levels are influenced by factors such as: • proximity (it is higher with nearby countries) • membership of trading blocs (e.g. Comprehensive and Progressive Trans Pacific Partnership (CPTPP)) • existence of free trade agreements (e.g. Australia and China), • the degree of difference in comparative advantage for specific products (more trade where different levels of efficiency are higher), • relative growth rates (more trade with fast growing economies) • non-economic cultural and historical links (e.g. Australia and the Commonwealth)
7	Australia has a relatively intense trading relationship with neighbouring countries (such as New Zealand and PNG) and with China and other East Asian economies. China is Australia's number one two-way trade partner, followed by Japan, US, Republic of Korea and Singapore. Singapore's share of trade is exaggerated as a result of a relatively high level of intra-company trade within multinational corporations.
8	Australia's relatively intense trading relationship with China is a matter of concern. Clearly Australians benefit from the exports of commodities such as iron ore and imports of manufactured goods but Australia's security and defence relies on the United States and NATO. Given the increased presence of China in the Pacific region (e.g. investment in Samoa, control of Hong Kong, moves to reclaim Taiwan) tension between China and the US has increased, leaving Australia caught between the two great powers.

9	Products can be classified according to the degree of processing involved in their production. Commodities are unprocessed or part-processed products, while manufactured goods are said to be either simply transformed manufactures (STMs) or intermediate goods such as components to be used as inputs to other production processes or elaborately transformed manufactures (ETMs) i.e. made into recognisable final products such as cars or computers.
10	The majority of Australia's exports are unprocessed commodities and services and most imports are intermediate and elaborately transformed manufactured goods. Products can also be classified according to the sector in which they are produced. Australia's exports are dominated by mineral and energy exports and imports are mostly consumer goods and services.
11	The World Trade Organisation (WTO) is the peak global or multilateral body that promotes and governs international trade. The WTO does not set tariff levels but provides a set of rules that underpin trade. The most important of these is the non-discrimination rule. This involves two principles, firstly the Most-Favoured Nation (MFN) principle and, secondly, the National Treatment principle. • The MFN Principle means that any concession offered by a country to one of its trading partners must also be offered to all its other trading partners. For example, if the UK set a tariff level of 25% on imports of South African wine it could not impose a 50% tariff on imports of Australian wine. Countries are allowed to set tariffs at different levels for different goods (e.g. the EU imposes a 32% tariff on wine, a 9.8% tariff on cars and a 4.1% tariff on LNG) but they can't impose different tariff levels on different countries for the same goods. • The National Treatment Principle means that imported goods must be treated the same as domestically produced goods after they have crossed the border (e.g. there can't be different technical and safety standards applied to domestic and imported goods). Some exceptions to the rules are permitted e.g. where 'dumping' occurs, to allow favourable treatment to less economically developed countries, and for trading blocs where trade with other bloc members can be treated more favourably than trade with non-bloc members.
12	The WTO operates a disputes settlement system to resolve trade disputes. A panel of judges investigates each dispute before announcing their decision.
13	The WTO has found it difficult to achieve unilateral trade and investment agreements because of the conflicting needs and policies within its 190 or so member economies. WTO 'rounds' of trade negotiations have continued for years at a time.
14	Meanwhile, to by-pass the requirements imposed by the WTO, countries have promoted trade by negotiating smaller scale, bilateral or multilateral free trade agreements (FTA's). FTA's allow countries to grant favourable trade treatment to specific countries rather than adhering to the WTO's most-favoured nation principles. FTA negotiations can progress relatively speedily as only a small groups of countries are involved in each agreement.

1.1 LINKAGES WITH OTHER ECONOMIES

Australia is a significant participant in the global economy. While countries have been trading for centuries, the extent of global integration and globalisation has increased since 2000 with national governments giving up some political and economic sovereignty to be part of an integrated global system of production, trade, capital flows and migration. National borders have become less significant economically as barriers to trade, investment and migration have been reduced. This results in the economic performance of one country becoming coupled with or dependent on the performance of other countries.

Global integration is based on four key freedoms i.e. free trade in goods, free trade in services, the free movement of capital and finance and the free movement of people.

Four freedoms	Examples	Comments
Free movement of goods	Global products (e.g. electrical goods) Global brands (e.g. Adidas, Apple) Global markets (e.g. iron ore, wheat)	Production dominated by China and East Asia. Familiar products in unfamiliar places
Free movement of services	Big Tech (e.g. Meta/Facebook, Google) Travel and tourism Education (e.g. overseas students) Broadcasting (e.g. Disney, Fox) Communications (e.g. the web)	Social issues Zoom meetings Broadening of the mind Loss of national identity and culture
Free movement of capital	Foreign investment (e.g. the Chinese 'belt and road' finance) Multinational companies (e.g. BHP) Floating currencies (e.g. AUD)	Ownership and control National security Potential instability Tax avoidance
Free movement of people	Guest workers Economic migrants (e.g. central Africa) Climate migrants (e.g. Indonesia)	Impact of wage levels Demonstration effect on consumers Economic and climate refugees

Key factors promoting global integration include:
- Reductions in tariff and non-tariff barriers to trade.
- Floating, convertible currencies.
- Changed business models (e.g. the development of supply chains).
- Changes in consumer preferences (e.g. influence of social media and changes in incomes)
- Development in transport technologies (e.g. containerisation and jet aircraft).
- Developments in communications technologies (e.g. the internet and satellites).

Indicators of the extent of global integration include:
- World trade (exports + imports) expressed as percentage of gross world product
- The number and scope of trade deals ratified across the world
- The level of foreign investment and the level of output of multinational corporations
- The number and complexity of global value chains (GVC's) and the level of trade in intermediate goods
- The number of people working overseas
- The number of parcels delivered internationally by, for example, DHL and Amazon

Student Activity 1.1

1. State five ways Australia is linked economically to other countries. Suggest an appropriate indicator or way of estimating the strength of each of the economic links you have chosen.

2. What are the so-called four freedoms of global integration. Outline the benefits that flow to Australia from each of these four freedoms.

1.2 THE EXTENT AND IMPORTANCE OF TRADE FOR THE AUSTRALIAN ECONOMY

1. What is the level of Australia's trade openness?

A simple indicator of the extent of Australia's international trade is trade openness. Trade openness is calculated by dividing the sum of exports and imports by GDP. Currently Australia's trade openness is a little over 40%. This is above OECD countries such as USA (25%), Japan (30%) and China (37%) but below, for example, New Zealand (50%), France (60%), Canada (62%), Korea (73%), Germany (84%) and Denmark (95%).

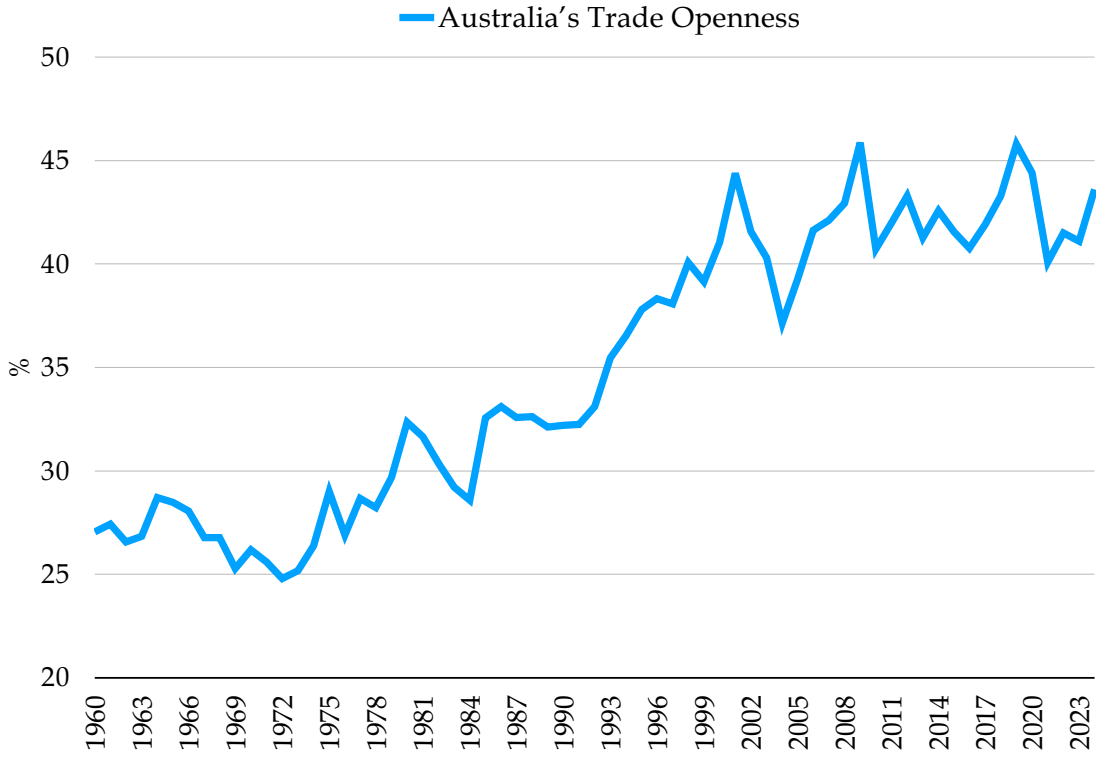


Figure 1.1: Data source - World Bank

2. What is the importance of trade for the Australian economy?

The Australian Productivity Commission makes the following points about the importance of trade and for the Australian economy.

- It is an important driver of economic growth allowing an efficient use of the economy's scarce resources.
- Exposure to competition from overseas encourages Australian firms to innovate and adopt more efficient production methods.
- Economic growth leads to increased incomes and a higher material standard of living.
- About 20% of Australian jobs rely on trade, e.g. in production, transport and finance.
- Consumers benefit from trade because it leads to an increase in consumer surplus. Trade gives people the freedom to buy cheaper or better-made products from around the world, such as cars, smart phones, food and flowers. Competition from imports can drive prices down and reduce inflation.
- Producers benefit from trade because it leads to increased producer surplus. Exporting firms are typically more successful than firms that don't export. They are larger, more productive, pay higher wages and are more resilient than non-exporters.
- Imports reduce Australian production costs. Over half of all Australian imports are intermediate goods that businesses use in their supply chains.

1.3 THE DIRECTION OF AUSTRALIA'S TRADE

1. What is trade intensity?

Trade intensity is a more complex way of measuring a country's trading presence in other markets. Trade intensity is a comparison of how much a country (say Australia) exports to a trade partner (say, China) with how much the world as a whole exports to the same economy (i.e. China).

$$\text{Trade intensity} = \frac{\text{Share of a country's exports to the destination of interest}}{\text{Share of world's exports to the destination of interest}}$$

For example, Australia is responsible for about 25% of total exports to China and about 10% of the world exports are sold to China, giving a trade intensity level of 2.5 or 250%. The trade intensity ratio has a range of values between zero and infinity. Values greater than 1 (or 100 if expressed as an index) indicate an intense, or higher than average, trade relationship. The higher the value the more intense is the trade relationship.

The degree of trade intensity changes over time and is affected by a number of factors which include:

- The proximity of the trading partners: Nearby countries trade more with each other than with distant countries.
- Trade agreements and membership of trading blocs: Trade is likely to be more open and intense when trade takes place within a trading bloc, e.g. Australia's free trade agreement with New Zealand and ASEAN countries. Countries with relatively low barriers to trade will tend to have a relatively open and intense trade relationships.
- Growth rates in domestic and overseas markets: Strong growth promotes both export production and import consumption, increasing trade openness and intensity. Changes in the world's growth hotspots causes a change in the pattern of trade.
- Patterns of production and consumption and the degree of comparative or competitive advantage: The greater the advantage a country has in the production of a product compared to another country the more open and intense the trade relationship is likely to be. For example, Australia has a significant comparative advantage over China in the production of mineral and energy commodities while China has a significant advantage in the production of intermediate and final manufactured products.
- The extent of non-economic links between countries: Trade is likely to be more open and intensive where close historical, political, social or cultural ties exist between countries e.g. those between Australia and New Zealand and the UK.

2. What are some examples of Australia's trade intensity levels?

- The countries with which Australia has the highest trade intensity levels are nearby, namely PNG, New Zealand and Fiji.
- Australia has 'intense' trading relationships with a range of Asian economies including Japan, China, Korea, Malaysia, Thailand, Indonesia, India, Singapore, Vietnam and the Philippines. About one-third of Australia's two-way trade is with China.
- There is a relatively close correlation between the pattern of Australia's and New Zealand's trade intensity with Asian economies.
- By way of contrast, our trading relationships with our most important non-Asian partners (across Europe and the Americas in particular) tend to be less intense than the global average, confirming that distance is an important influence on the level of trade intensity.

Student Activity 1.2

1. What is the difference between trade openness and trade intensity? Which of the two indicators provides evidence about the overall importance of trade and which provides data about the direction of Australia's trade?

2. Use the graphs and table below to identify (i) the region that dominates Australia's exports and (ii) the country within that region that dominates Australia's trade.

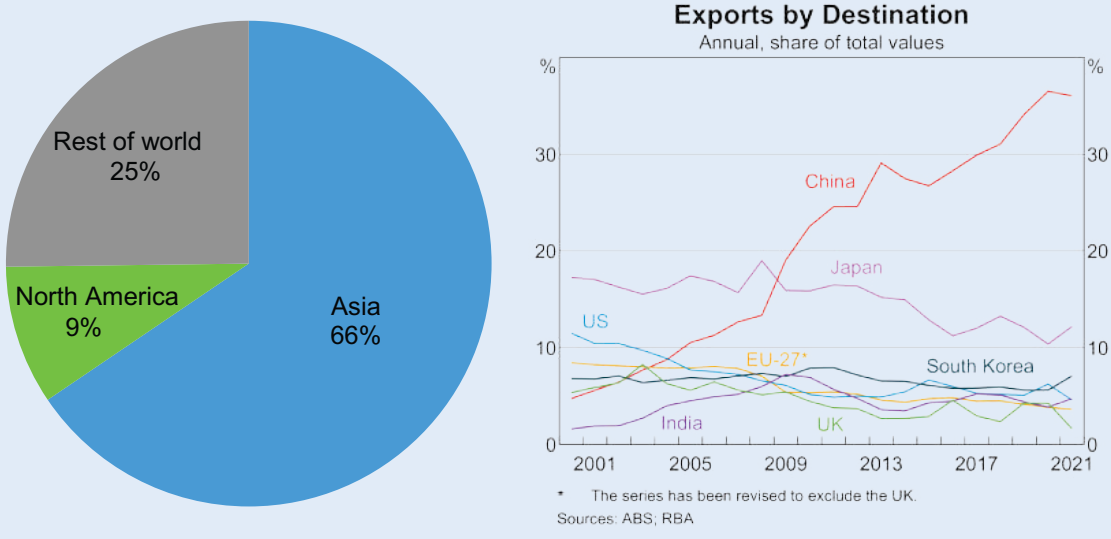


Figure 1.2: Source DFAT and RBA Chart Pack

Top 15 trade partners (2020–21)				
Rank	**Country**	**Value ($Am)**	**Share**	**5-year trend**
1	China	283,587	26.9	10.3
2	Japan	117,274	11.1	6.3
3	United States	76,521	7.3	1.8
4	Republic of Korea	68,686	6.5	5.8
5	Singapore	46,754	4.4	9.6
6	India	46,530	4.4	7.7
7	Taiwan	33,955	3.2	13.3
8	Malaysia	26,790	2.5	3.9
9	Germany	26,495	2.5	3.1

Top 15 trade partners (2020–21)				
Rank	**Country**	**Value ($Am)**	**Share**	**5-year trend**
10	New Zealand	25,532	2.4	-2.2
11	Thailand	24,616	2.3	-0.1
12	Vietnam	22,073	2.1	10.9
13	United Kingdom	22,021	2.1	-2.6
14	Indonesia	18,393	1.7	-0.2
15	Hong Kong (SAR of China)	14,113	1.3	-9.2

(i) _____

(ii) _____

3. Read the passage and answer the questions that follow.

- Economically, Australia is locked into the Asian region, and especially its largest member, China. Coupling with Asian economies was a sensible choice as the region emerged as the world's foremost economic powerhouse. This century has been described as the 'Asian Century'.
- As a relatively wealthy, stable country on Asia's doorstep, Australia could continue to be in a strong position to contribute to, and benefit from, this growth. Until recently, it was the only major developed economy with preferential access to all major North Asian markets.
- Australia is meshed with China's economy not only because China is the market for more than a third of Australian exports, but also because China is the major trading partner for Australia's other markets in East Asia: Japan, South Korea, Taiwan and the ASEAN countries.
- Today, East Asia and the Pacific region form a regional economic community that in terms of trade and investment between its members is only a little less integrated than the European Economic Community, and very much more integrated than the North American economic community. Australia is part of this economic community. The increasing importance of value chains within these regional economic communities continues to drive integration. The Belt and Road initiative presents significant opportunities for Australia.
- However, Australian exporters have recently encountered new barriers to Chinese markets. So, as a result of these bilateral tensions, should Australia be seeking to reduce its close economic ties with China?
- It is difficult to imagine plausible circumstances in which an Australian government would voluntarily cut exports to China. Australia can't decouple from China's economy any more than Japan, Korea, Taiwan or Southeast Asia can.
- On the contrary, the economic relationship between Australia and China will likely deepen in coming decades as the incomes of hundreds of millions of Chinese consumers reach advanced economy levels. Higher incomes in China will increase demand for a more varied and expensive diet, for better health care services, for competitive funds management, for tourism, for English language tertiary education, for sports and entertainment, and for offshore assets. Australia is well placed to compete in all these markets. An economic 'decoupling' of China will not benefit Australia.

- If there should be a more general disengagement between western economies, such as US and Europe, with China, Australia will be in a very difficult position because of its security relationship with the United States as a defence ally to support Australia's territorial independence and freedom of action.

(a) Describe the extent to which Australia is 'locked in' economically to the Asian region, and especially China.

(b) Identify three reasons why Australia has been in a strong position to benefit from economic growth in the Asian region.

(c) State two causes of the recent rise in tension between China and Australia.

(d) In what circumstances could Australia be forced to reduce its economic ties with China?

1.4 THE COMPOSITION OF TRADE

1. What are the main categories of Australia's exports and imports?

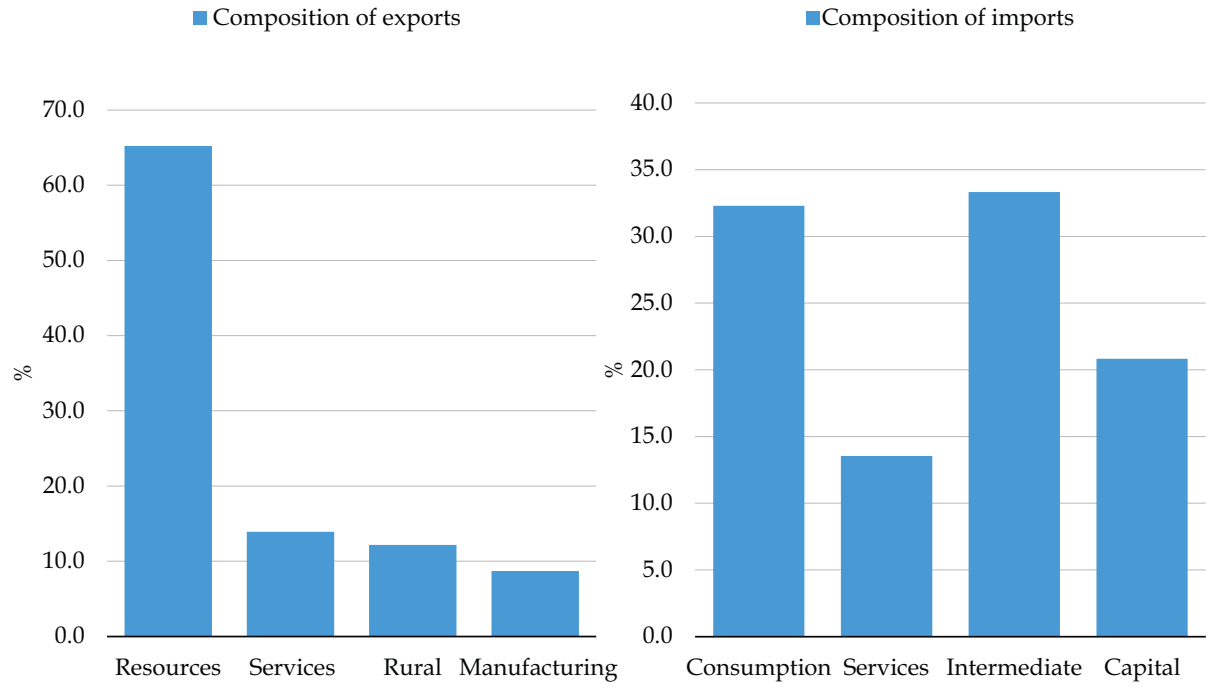


Figure 1.3: Data source: DFAT

The charts show the main categories of Australia's exports and imports. The main category of exports is resources, followed by services and rural and manufacturing. Intermediate goods are the biggest category of imports followed by consumption goods, capital goods and services.

2. Why does Australia import intermediate goods?

Intermediate goods are the component parts of other goods and, when combined with other components, form a 'value chain'. A 'value chain' describes the step-by-step process of adding value to a product through, for example, design, marketing, manufacturing and distribution. Increased trade in intermediate goods is linked with the process of globalisation. Value chains have become 'global' for a number of reasons, including:

- Developments in information and communication technologies.
- Differences in production costs between countries (e.g. cheaper manufacturing costs in South East Asian economies than in advanced economies).
- Lower trade and transport costs and improved international logistics.
- Reduced barriers to trade (e.g. reductions in tariffs and quotas).

Globalisation and the development of value chains mean that many products are no longer made in one country but are part made in many countries across the world. Countries increasingly rely on foreign inputs for their own exports, which may then be further processed in partner countries. Between 30 per cent and 60 per cent of G20 countries' exports are intermediate inputs traded within value chains.

Production inputs may be sourced from different corners of the globe. The trade in intermediate goods has provided an incentive to cut barriers to trade so that local industries can improve their international competitiveness. Opportunities to be part of a value chain are significant for the Australian economy. The contract for Melbourne based Boeing Aerostructures Australia to produce the moveable trailing edge on the wings of the Boeing 787 Dreamliner is worth about $4b over 20 years. It is unlikely that Australia's manufacturing firms would be able to participate in international markets without the development of value chains.

3. **Are Australia's fossil fuel exports a cause for concern?**
   - Australia is the world's third largest exporter of fossil fuels behind Russia and Saudi Arabia. It is also the world's second largest coal exporter and largest exporter of LNG.
   - Australia is the 14th largest emitter of greenhouse gases in the world and the highest emitter per capita. If emissions created from the use of our exports were included in our total, our record would be worse still.

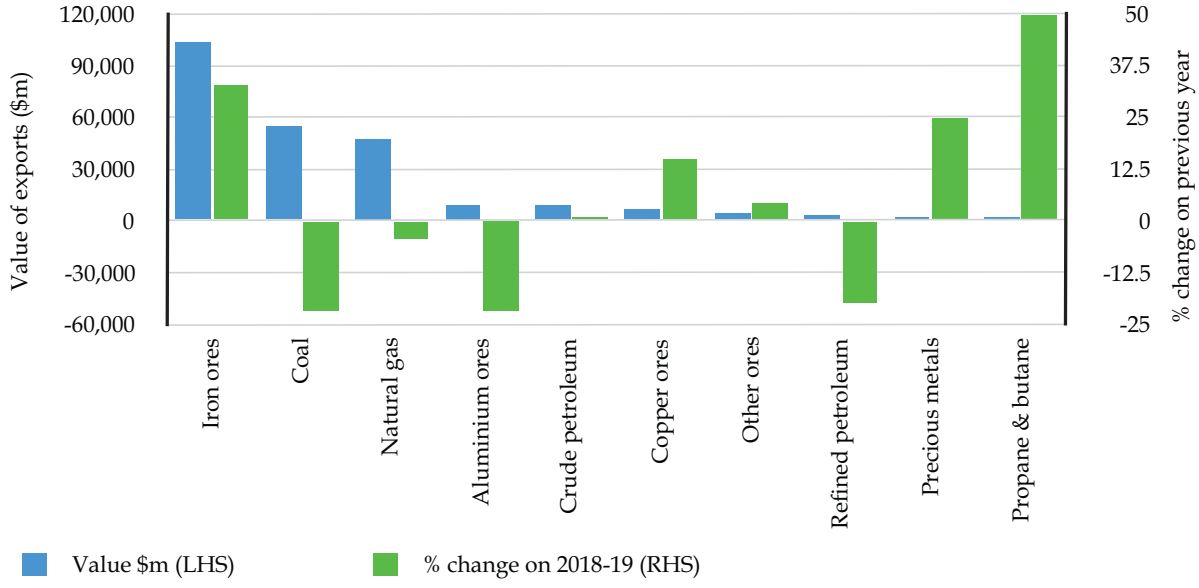


Figure 1.4: Data Source ABS, Australia's mineral and energy exports (2019–20)

   - Australia has sought to play a leadership role among the Pacific Island nations in order to provide both a physical buffer to our north and a significant diplomatic platform, but these emissions and their links with climate change and rising sea levels put us into conflict with these nations.
   - The previous Coalition Prime Minister argued that what happened to Australian coal and gas after it is sold wasn't Australia's problem but that's not the way the rest of the world sees it. They believe there is a shared obligation to reduce fossil fuel production and consumption.
   - Australia will have to develop its production and export capacity of renewable sources of energy (e.g. solar, wind and tidal) to compensate for cuts to fossil fuel exports.

Student Activity 1.3

Australia's top 15 exports and imports of goods and services in 2021

Top 15 Exports - Goods and Services - 2021				Top 15 Imports - Goods and Services - 2021			
Rank	**Product**	**%**	**5-year trend**	**Rank**	**Product**	**%**	**5-year trend**
1	Iron ore & concentrates	29.8	24.1	1	Refined petroleum	6.4	6.4
2	Coal	12.2	3.4	2	Passenger motor vehicles	5.9	-0.6
3	Natural gas	9.6	19.6	3	Freight services	4.3	12.3
4	Gold	4.5	7.0	4	Telecom equipment & parts	3.6	4.2
5	Education-related travel	4.2	-1.5	5	Goods vehicles	3.1	7.1
6	Crude petroleum	1.9	13.6	6	Computers	2.7	8.0
7	Wheat	1.8	5.5	7	Professional services	2.5	11.3
8	Beef	1.7	5.9	8	Medicaments (incl veterinary)	1.9	1.3
9	Aluminium	1.7	4.1	9	Crude petroleum	1.8	-5.2
10	Copper	1.5	11.1	10	Pharm products (excl medicaments)	1.8	14.0
11	Personal cultural & recreational services (c)	1.3	52.0	11	Gold	1.6	1.6
12	Telecom, computer & information services	1.1	12.8	12	Technical & other business services	1.5	3.9
13	Professional services	1.1	3.9	13	Furniture, mattresses & cushions	1.4	6.0
14	Meat (excl. beef)	1.1	8.4	14	Telecom, computer & information services	1.4	10.9
15	Aluminium	0.9	5.4	15	Civil engineering equipment & parts	1.4	15.0

1. Use the table to estimate the total percentage of the top 15 exports that are:
   (a) non-rural resource or commodity exports.
   (b) service related exports.
   (c) rural commodity exports.
   (d) manufactured exports.

2. Use the table to estimate the total percentage of the top 15 imports that are:
   (a) consumption goods imports.
   (b) service related imports.
   (c) intermediate goods imports.
   (d) capital goods imports.

3. State four factors that account for or contribute to this pattern of trade.

_____

_____

_____

4. Given the 5-year growth trends, is the overall composition of exports and imports likely to change significantly during the next 5 years? State evidence to support your answer.

_____

_____

_____

1.5 AUSTRALIA'S TRADE POLICY, INCLUDING REGIONAL AND BILATERAL FREE TRADE AGREEMENTS

1. **What is the relationship between free trade agreements and the pattern of trade?**
   As you would expect free trade agreements influence the pattern of trade, but also the pattern of trade influences the trade agreements we negotiate.

2. **What free-trade agreements has Australia entered into?**
   Australia has 16 FTAs with 28 countries. Australia is negotiating new bilateral and regional FTAs. Australia's existing FTA's cover over 70% per cent of our total trade. Details of each FTA can be found on www.dfat.gov.au.

Australia-New Zealand (ANZCERTA or CER)	1 January 1983
Singapore-Australia (SAFTA)	28 July 2003
Australia-United States (AUSFTA)	1 January 2005
Thailand-Australia (TAFTA)	1 January 2005
Australia-Chile (ACI-FTA)	1 January 2005
ASEAN-Australia-New Zealand (AANZFTA)	10 January 2012
Malaysia-Australia (MAFTA)	1 January 2013
Korea-Australia (KAFTA)	12 December 2014

Japan-Australia (JAEPA)	15 January 2015
China-Australia (ChAFTA)	20 December 2015
Australia-Hong Kong (A-HKFTA)	17 January 2020
Australia-Peru (PAFTA)	11 February 2020
Pacific Agreement on Closer Economic Relations (PACER) plus.	13 December 2020
Regional Comprehensive Economic Partnership (RCEP)	1 January 2022
Australia-UK (AUS-UK)	1 January 2022

Source: dfat.gov.au

3. What is the importance of FTA's for Australia?

According to the Department of Foreign Affairs and Trade (DFAT):

- FTA's are an important way of reducing protectionism. They by-pass the cumbersome and stalled process of trade liberalisation through the WTO. They allow trade-discrimination that would be illegal under WTO rules.
- As well as reducing tariffs, they also address behind-the-border barriers to trade; encourage investment; and improve the rules affecting such issues as intellectual property, e-commerce and government procurement.
- Free trade agreements give Australian businesses and consumers improved access to a wider range of competitively priced goods and services, new technologies, and innovative practices.
- Free trade agreements help Australia obtain more benefits from foreign investment.
- Free trade agreements promote regional economic integration and build shared approaches to trade and investment between Australia and our trading partners.
- Free trade agreements can deliver enhanced trade and investment opportunities that contribute to the economic growth of less-developed economies.
- Free trade agreements support stronger people-to-people and business-to-business links that enhance Australia's overall bilateral relationships with FTA partners.
- Free trade agreements can continue to provide additional benefits to Australia and trading partners over time, including via in-built agendas that encourage ongoing domestic reform and trade liberalisation.

Student Activity 1.4

1. (a) Choose three of Australia's free trade agreements. Describe the composition of trade between Australia and the chosen country or countries.
   (b) Explain how Australia has or will benefit from the free trade agreement.
   (c) Explain why the other country was prepared to sign the agreement.

2. With how many of Australia's top 10 two-way trading partners does Australia have a free-trade agreement? Does this tally surprise you?

3. Read the text below and answer the question below.

- In December 2021 Australia and the UK signed a free trade deal for merchandise or goods trade. Services trade was not included in the deal. The trade deal is Australia's most ambitious Free Trade Agreement (FTA) with any country other than New Zealand.
- The UK is currently Australia's fifth largest goods or merchandise trading partner. Two-way goods trade is valued at $21.9b and is 4.1% of Australia's total goods trade. Australian exports of goods to the UK include gold, lead, alcoholic drinks (wine and beer), measuring and analysing instruments, wine, beef, sheep meat, sugar, long grain rice, swimwear and confectionary. UK goods imported by Australia include cars, medicaments and pharmaceutical products and alcoholic beverages (scotch whisky), dairy products, biscuits and ceramics.
- Trade intensity, however, between Australia and the UK is relatively low. Distance matters when it comes to trade. Trade volumes tend to be higher between neighbouring countries because of lower transport costs. Trade intensity is unlikely to increase given the push back against sending goods halfway across the world while the planet heats-up to unsustainable levels. Indeed the gains from trade deal could be more than offset by a possible UK carbon tax.
- The Australia-UK FTA will result in improved goods access to the markets of both countries. Under the Australia-UK FTA, Australia's exporters stand to benefit as 99% of Australian goods by value will eventually be able to enter the UK duty-free although there will be duty-free quotas during a transition period (with duty still being paid when the quota is exceeded).

(a) Identify three advantages and three disadvantages of the trade deal from Australia's viewpoint.

(b) Assess whether the trade deal will, on balance, be more favourable to Australia than the UK.

SO YOU THINK YOU UNDERSTAND AUSTRALIA'S INTERNATIONAL TRADE	
Six main areas of economic integration 1 2 3 4 5 6	**Four changes to the pattern of trade caused by global integration** 1 2 3 4
Examples of Australia's global links	**Top five trading partners**
Trade openness	**Trade intensity**
Importance of trade for Australia	**Factors affecting trade intensity**
Composition of exports	**Australia's intensity levels**
Composition of imports	**Australia's trade issues**
Australia's trade policy	**Australia's free trade agreements**

TEST YOUR KNOWLEDGE

Australia's International Trade

1. Which of the following does Australia control the least?
   (a) Flows of people
   (b) Flows of currency
   (c) Flows of goods
   (d) Flows of direct investment

2. Assume that in 2022 Australia's GDP totalled AUD1.18b and the sum of Australia's exports and imports totalled $475b. Therefore, in 2022, Australia's:
   (a) trade openness was about 40%
   (b) trade openness was about 15%
   (c) trade intensity was about 50%
   (d) trade intensity was about 25%

3. Which if the following is NOT an explanation of Australia's relatively high level of trade intensity with China?
   (a) Proximity.
   (b) Australia and China have signed a trade deal.
   (c) There is a clear pattern of comparative advantage between the economies for manufactured goods and resource commodities
   (d) Growth rates in China and Australia were relatively strong in the 2010s.

4. Two main categories of Australia's imports is are:
   (a) Resources, consumer goods
   (b) Resources, intermediate goods
   (c) Consumer goods, intermediate goods
   (d) Services, manufactured goods

5. As a mineral and energy producer, exports from this sector tend to flow to fast growing countries or regions in the world. This helps explain why _____ and _____ are major destinations for Australia's exports. The missing countries are most likely to be:
   (a) Germany and France.
   (b) The United States and Canada.
   (c) South Africa and Tanzania.
   (d) India and the Republic of Korea.

6. Australia is NOT a party to which one of the following trading agreements?
   (a) Association of South East Asian Nations (ASEAN).
   (b) European Union.
   (c) Regional Comprehensive Economic Partnership (RCEP).
   (d) Australia and New Zealand Free Trade Area (ANZFTA).

7. Which of the following is a correct statement? There is a close relationship between:
   (a) The composition of trade and direction of trade
   (b) The composition of exports and the composition of imports
   (c) The composition of trade and the pattern of absolute advantage
   (d) The pattern of trade and the exchange rate value of the Australian Dollar

8. Australia has a lower opportunity cost than China when producing _____ compared to _____. The missing products in the correct order are:
   (a) Simply transformed manufactured goods, elaborately transformed manufactured goods.
   (b) Mineral and energy commodities, elaborately transformed manufactured goods.
   (c) Intermediate goods, final goods.
   (d) Part-processed commodities, unprocessed commodities.

9. Which one of the following provides Australia with a competitive advantage when producing and exporting mineral and energy commodities?
   (a) It has a tightly regulated labour market.
   (b) It does not allow foreign ownership of mining and energy firms.
   (c) It has strong financial, government and legal institutions.
   (d) The level of labour productivity in Australia is low.

10. Australia exports to and imports from _____ countries, but the biggest three trading partners account for between _____ of our total trade. The missing figures, in the correct order, are:
   (a) Over 100, between 90 and 95%.
   (b) Over 100, between 40 and 45%.
   (c) Over 150, between 90 and 95%.
   (d) Over 150, between 40 and 45%.

INTERNATIONAL TRADE AND PROTECTIONISM

2

SYLLABUS CHECKPOINTS

- ☐ The concepts of absolute and comparative advantage, including the sources of comparative advantage
- ☐ The gains from specialisation and trade using the demand and supply model, the Production Possibility Frontier (PPF) model and the concept of opportunity cost
- ☐ Types of protection including tariffs, subsidies, quotas
- ☐ Arguments for protection
- ☐ The impact of tariffs and subsidies using the demand and supply model on trade, market efficiency and the macroeconomy

ESSENTIAL GUIDE TO INTERNATIONAL TRADE AND PROTECTION	
1	Countries gain from international trade both through static gains, which stem from a more efficient allocation of resources, and dynamic gains, which come from a more productive use of resources (e.g. as a result of increased competition, opportunities for economies of scale and from reduced border administration costs).
2	The quantity and quality of a country's resources (it's resource endowment), and the efficiency with which they are used determine how well a country can produce any given product. Resources are classified as land, labour, capital or enterprise. Productivity is the standard measure of efficiency. A country that can produce something more efficiently than another country has an absolute advantage in the production of that product.
3	However, David Ricardo (1772-1823) realised that countries should specialise production in areas where they had a comparative advantage rather than an absolute advantage. Comparative advantage is determined by opportunity cost or the value of what is foregone when resources are used in a particular way.
4	The Law of Comparative Advantage states that, where there are two countries producing the same two products, output can be increased by specialising in the production of the product where opportunity cost is lower. The extra output can then be traded in a way that benefits both countries.
5	There are at least four models that can be used to demonstrate the static gains from trade. You are unlikely to need to use more than one model per question. The four models are: • Producer and Consumer surplus models showing increased welfare as a result of trade. • The 'Tariff Diagram' showing the welfare gain when tariffs are reduced or removed. • Theory of Comparative Advantage calculations showing the gains to overall production as a result of trade. • Production Possibility Frontier diagrams showing that specialisation and trade allow citizens to consume beyond the production possibility frontier of their economy.
6	The Theory of Comparative Advantage provides a broad or general explanation of the pattern of international trade. Understanding the actual pattern of trade is more complex. Comparative Advantage is a dynamic concept and changes over time, e.g. as a result of investment and skills development.
7	Producers are internationally competitive if they have a competitive advantage in producing their product. The relative competitiveness allows them to meet the test international markets. A competitive advantage may reflect, for example, comparative advantage (e.g. from resource endowment), foreign investment, skills, training and infrastructure development.
8	In addition to the static gains from trade, there are important dynamic gains. Dynamic gains explain why world trade is dominated by inter-industry trade (for example, countries may produce and export cars but also buy imported cars). Dynamic gains result from • producers benefitting from economies of scale and hence lower unit costs. • an increase in market competition. • consumers having a broader range of products to buy. • reduced border administration costs. • an improvement in international relations.
9	While countries generally welcome the economic benefits created by international trade, this trade is rarely completely free of protectionist measures. The barriers or policies used to control trade include the use of tariffs, subsidies, quotas and other non-tariff barriers.
10	A tariff is a form of tax levied on imported products. A tariff is an 'at the border' trade barrier. The tariff increases the price of the imported good, raises some revenue for the government, reduces the quantity of imports, increases producer surplus and decreases consumer surplus. The net outcome is a deadweight loss (or reduction in overall welfare). This can be shown on the 'tariff diagram'.
11	A subsidy is a payment by the government to domestic producers. A subsidy leads to a downward (or to the right) shift the producers' average cost curve. This leads to more domestic sales, a drop in imports and an increase in producer surplus. Consumers continue to pay the same 'world or import' price. The government (or taxpayer) has to pay for the subsidy. The net outcome is a deadweight loss.

12	Other non-tariff ('behind the border') forms of protection include: • quotas which are a quantitative restriction on the volume of trade. • hybrid measures such as tariff-quotas (where higher tariffs are imposed on imports after an import quota has been reached). • production standards, health and safety regulations. • border administration procedures. • local content laws.
13	Unregulated free trade may cause market failure and inefficiency, for example by: • an increase in structural unemployment as a result of changed patterns of trade. • an unfair distribution of the gains created through trade both within countries and between countries. • an increase in negative consumption and production externalities. • an increase in monopoly power.
14	International trade has grown at a slower rate since 2008 following the Global Financial Crisis, partly as a result of 'Cold War 2' (the battle for global economic supremacy between the US and China), the pandemic which highlighted the problems countries face if trade is disrupted and the Russian invasion of Ukraine.
15	Most countries protect their producers from dumping. Dumping occurs when surplus stocks of a product are off-loaded in a foreign market at unreasonably low prices, often below the cost of production. While dumping may be temporary, the damage caused to domestic producers may be more permanent.
16	Countries may also support their infant industries by e.g. start-up finance, tariffs and subsidies. Infant industries are newly established industries initially operating on a relatively small and inefficient scale but which have the potential to grow and become more efficient. They need to be protected from foreign competition during the development and expansion phase.
17	Countries may protect strategic industries. These are industries deemed to be vital to national economic security. Ensuring these industries continue to operate means supply is maintained within the economy and shortages caused by trade interruptions or other geopolitical disputes are avoided.
18	Countries also protect sensitive (or iconic or emblematic) industries. These are industries that command a special place in a nation's psyche because, for example, they provide significant levels of employment, have a strong regional presence, produce a traditional product or provide broader social and economic benefits.
19	Democratically elected governments may adopt a 'burden sharing' approach to trade and protectionism. Large numbers of people benefit to a moderate extent from trade, but a smaller number of people are harmed to a significant extent, e.g. they become unemployed. The people with who lose out are likely to be more politically active than those who gain.

2.1 THE SIGNIFICANCE OF TRADE

Long ago people discovered that living standards could be improved through trade. Regions or countries that embraced trade flourished while countries that were closed to trade stagnated. Trade has played a significant role in the development of Australia and is a powerful driver of growth. Trade improves living standards because of so-called 'static gains' (i.e. through an improved allocation of resources) and 'dynamic gains' (i.e. through additional benefits that flow as a result of specialisation and trade).

2.2 ABSOLUTE AND COMPARATIVE ADVANTAGE

1. **What is the definition of absolute advantage?**
   A country has an absolute advantage when it can supply something more efficiently than another country. For example, Australian universities might be better (or more efficient) than Chinese universities. A trade pattern based on absolute advantage does not guarantee increased welfare.

2. **What is the definition of comparative advantage?**
   A country has a comparative advantage in the production of a product when, compared to production in another country, the opportunity cost of producing the product is lower. For example, compared to China, Australia can produce wine more efficiently than it can produce cars. While not every country is best at producing something, all countries are relatively good at producing some products rather than others.

3. **What are the sources of comparative advantage?**
   The following factors may be important in determining the pattern of comparative advantage in an economy.
   - **Resource endowment:** The quantity and quality of factors of production available to producers in an economy clearly influences their ability to supply. The country may have, for example, good beaches, snowy mountains and scenery to support tourism.
   - **Wage costs and the labour supply:** Countries that have abundant low-cost labour resources are suited to the volume production of manufactured products. For example, China and the Republic of Korea are efficient producers of electronics and vehicles.
   - **Ability to benefit from economies of scale:** Industries where economies of scale are possible can operate more efficiently than producers who operate on a smaller scale.
   - **Research and development:** Research & development, innovation and invention can make an industry competitive, e.g. in quantum science and technology.
   - **Exchange rates:** Depreciation of a country's exchange rate will make it easier to sell exports at a competitive price.
   - **Free trade agreements and protectionism:** Free-trade agreements, such as the Regional Comprehensive Economic Partnership (RCEP) and bilateral deals signed by Australia with Japan, the Republic of Korea, UK and China, afford benefits to certain industries, such as Australia's cattle and dairy industries. On the other hand, producers may be placed at a disadvantage as a result of import controls such as tariffs, export subsidies and quotas. These can put an industry at an artificial comparative disadvantage.
   - **Competitive advantage:** Factors such as product design, reliability, after-sales support and quality of service affect competitiveness. The existence of a cluster of producers can increase efficiency, e.g. Silicon Valley in the US.
   - **Institutions:** Banking systems are needed to provide capital for investment and export credits and legal systems help to enforce contracts. Political institutions and a stable government also contribute to a firm's competitiveness.
   - **Dynamic processes within an economy:** Comparative advantage may grow over time and become a self-reinforcing process where success leads to further success. Rising demand allows the exploitation of economies of scale. Higher profits can be reinvested in the business to fund further product development, marketing and a wider distribution network. Skilled labour is attracted into the industry and so on.

2.3 USING A DEMAND AND SUPPLY MODEL TO SHOW THE GAINS FROM TRADE

Microeconomic demand and supply models can be used to show how trade can increase welfare. Total welfare is the sum of consumer surplus and producer surplus. Consumer surplus occurs when the price consumers pay for a product is less than the price they would be willing to pay. What they are willing to pay is assumed to reflect the benefit or welfare they receive from consuming the product. Producer surplus occurs when the price producers receive from selling a product is higher than the price they would have been willing to receive. What they are wiling to receive is assumed to reflect the cost of making the product.

Trade may allow consumers to buy cheaper imported products than domestically produced products where, for example, overseas producers operate more efficiently or competitively. Trade may also allow efficient producers to export products at higher prices than they could have obtained in the domestic market.

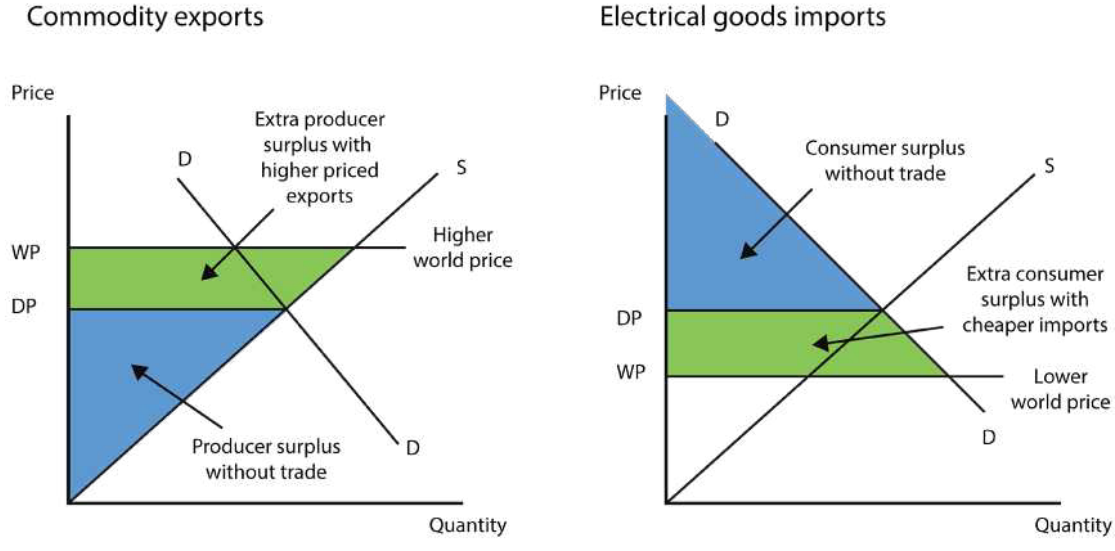


Figure 2.1

- The left-hand side of Fig 2.1 shows a commodity export market (e.g. coal or iron ore). The demand and supply curves show domestic demand and supply when there is no trade, and a domestic price level at DP. Without trade producers are limited to domestic sales at the domestic equilibrium price (DP).
- The key to the diagram is the relative level of the world price (WP) and the domestic price. In export markets the world price is higher than the domestic price reflecting, amongst other things, an ability to supply more efficiently than producers in other countries.
- Producer surplus (the difference between costs of production and the price they receive) increases as a result. Note, however, there is now reduced consumer surplus as prices rise in domestic markets as producers divert some of their output to export markets. The net gain is shown by the small inverted triangle, the difference between extra producer surplus and the reduced consumer surplus.
- The right hand side of Fig 2.1 shows the market for imported electrical goods. In this market the domestic price (DP) is higher than the price of electrical goods made overseas. Without trade consumers are limited to buying from domestic producers and pay the domestic price (DP).
- Trade allows consumers to buy imports at lower prices because overseas producers make these products more efficiently.
- Consumer surplus (the difference between market prices and the price they are willing to pay) increases as a result. Producer surplus is reduced as domestic producers lose sales to the cheaper imports but consumer surplus increases. The net gain is shown by the small triangle, the difference between the extra consumer surplus and the reduction in producer surplus.

Clearly the real world is not as simple as this but that is not the point. The model clearly shows that welfare can be increased as a result of trade, both for exporters, who gain access to a bigger market, and for consumers, who gain access to cheaper, more efficiently produced products. The model assumes that the domestic and overseas output is homogenous and of the same quality. Additionally, the model doesn't account for externalities (e.g. the carbon emissions from mining and using the coal) or for dynamic gains from trade (e.g. the benefits of economies of scale). Additionally, the model doesn't account for costs associated with the structural change in the economy caused by industries unable to compete with cheaper imports.

Student Activity 2.1

1. The diagrams are demand and supply models for two Australian markets.

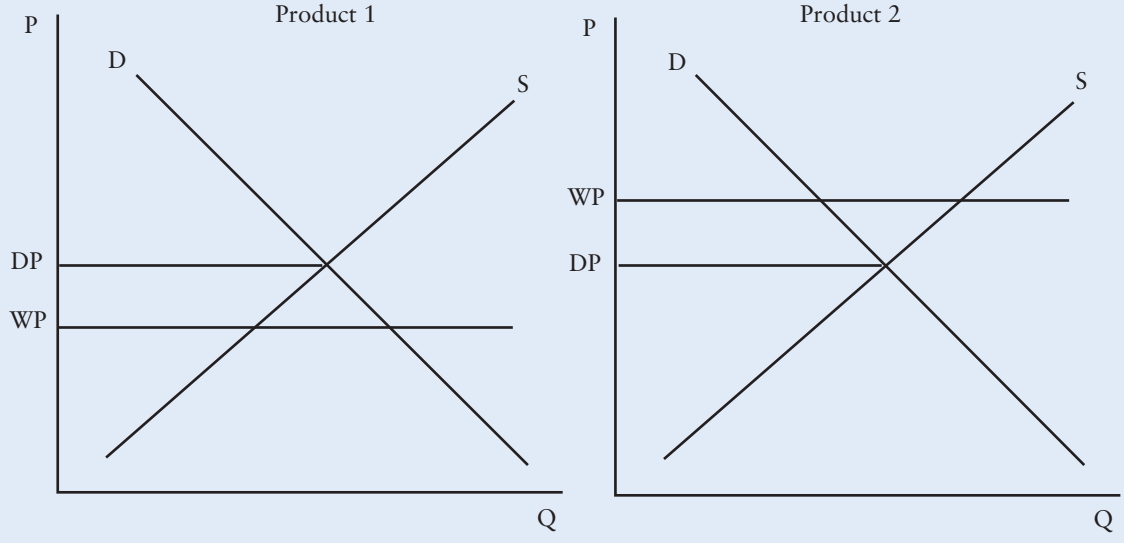


Figure 2.2

(a) Which product will be exported and which will be imported?

(b) In figure 2.2 shade in the gains received by producers and consumers.

(c) Explain why producers and consumers gain from trade.

(d) Suggest Australian examples of Product 1 and Product 2.

2.4 USING COMPARATIVE ADVANTAGE CALCULATIONS TO SHOW THE GAINS FROM TRADE

1. What does this model involve?

This model involves calculating the production levels of two products in two countries and the effect on the possible consumption of these products in the two countries when trade takes place.

2. What does the theory state?

The theory of comparative advantage states that welfare will rise when trade is based on comparative advantage or relative opportunity costs.

The calculations in the model are based on a number of assumptions:

- There are only two countries, and each country makes the same two products.
- There are constant returns to scale, i.e. doubling inputs leads to double the output.
- Goods are homogenous (e.g. Australian production is identical to Chinese production).
- There are no transport costs when products are moved between the countries.
- Consumers want the extra output that the trade produces.
- There are no political, social, cultural or other barriers to the trade taking place.
- The terms of trade are suitable for both countries

3. Can you work through an example calculation?

Assume two countries, Australia and UK, produce beef and grain. With half of their resources allocated to each product Australia can produce 15 units of beef and 5 units of biscuits, and UK can produce 10 units of beef and 20 units of grain (per time period).

Step 1: Put the data in a table. Countries normally go in column 1, and products in row 1.

	Beef	Grain
Australia	15	5
UK	10	20
Total	25	25

Step 2: Calculate the opportunity cost of making each product in each country.

	Beef	Grain
Australia	5/15 = 0.33	15/5 = 3
UK	20/10 = 2	10/20 = 0.5

Given the even allocation of resources, resources in Australia are 3 times as productive when producing beef rather than grain. To make three more units of beef Australia has to sacrifice 1 unit of grain whereas to make 3 more units of beef the UK has to sacrifice 6 units of grain.

Step 3: Countries specialise in products where their opportunity cost is lowest. Australia produces beef and the UK producer grain.

Step 4: Work out production levels when countries specialise according to pattern of comparative advantage. Remember it is assumed that doubling resource inputs doubles the level of output. Don't add the totals together, but multiply the output produced with half the resources by two to get the output produced from using all the resources. Check that the output of both products is higher that before. If it isn't check your calculation of the opportunity cost ratios.

	Beef	Grain
Australia	(2 x 15) = 30	0
UK	0	(2 x 20) = 40
Total	30	40

Step 5: Total output has increased but, for an increase in consumption or welfare, countries have to trade. Two further pieces of information are needed, (i) the terms of trade and (ii) the proposed level of exports.

- The terms of trade: Use the terms of trade given in the question or pick your own using the opportunity cost ratios calculated in Step 3. (Australia needs a ratio between 0.33 beef to 1 grain and 3 beef to 1 grain and UK a ratio between 0.5 beef to 1 grain and 2 beef to 1 grain). If you are picking the terms of trade, keep it simple, with, say, terms of trade of 1 unit of beef = 1 unit of grain. Different terms of trade will lead to a different distribution of the gains from trade.
- Level of exports: Either use the amount of exports and imports given in the question or choose a sensible amount yourselves (e.g. Australia exports 15 units of beef). Show the final consumption pattern after trade. Check that both countries are better off. Check no one is worse off.

	Beef		Grain
Australia	30 – 15 = 15	——>	0 + 15 = 15
UK	0 + 15 = 15	<——	40 – 15 = 25
Total	30 (was 25 before trade)		40 (was 25 before trade)

4. Should a country import products in which they have an absolute advantage?

Remember the gains from trade depend on comparative advantage not absolute advantage. As long as there is a difference in opportunity cost there will be gains from trade. Calculating the gains from trade when one country has an absolute advantage in both products (and hence the other country has an absolute disadvantage in both products) basically follows the same steps as before.

5. Can you show another example?

Two countries, Estonia and Finland, have equal amounts of resources. They make only Beans and Cakes. With half their resources on each product Estonia can produce 15 Beans and 5 Cakes, and Finland can produce 20 Beans and 20 Cakes.

Step 1: Put the data in a table.

	Beans	Cakes
Estonia	15	5
Finland	20	20
Total	35	25

Step 2: Work out the product each country has a comparative advantage in. Work out the opportunity cost of making each product in each country (using other goes over rule).

Check that the pattern of specialisation is consistent with lowest opportunity costs.

	Beans	Cakes
Estonia	5/15 = 0.33	15/5 = 3
Finland	20/20 = 1	20/20 = 1

Estonia specialises in Beans and Finland specialises in Cakes.

Step 3: There is a problem! If the two countries specialise fully, cake production goes up but bean production goes down. Without knowing the comparative value of beans and cakes it is not clear whether welfare has increased or decreased.

	Beans	Cakes
Estonia	30	0
Finland	0	40
Total	30	40

To overcome the problem, follow these rules.

Rule 1: The weak country (Estonia – the one with the double disadvantage) completely specialises according to comparative advantage.

Rule 2: The strong country (Finland – the one with the double advantage) only partially specialises. It continues to make some Beans, its weaker product, (enough make up the difference if not a bit more) and uses the rest of its resources to make its strong product.

	Beans	Cakes
Estonia	30	0
Finland	0 + 5	40 – 5 = 35
Total	35	35

Step 4: Countries now have to trade. Use the terms of trade given in the question or pick your own between the internal opportunity cost ratios for both countries calculated in Step 3 (e.g. 2 Beans = 1 Cake). Use the amount of exports and/or imports given in the question or choose a sensible amount yourselves (e.g. Finland exports 7.5 Cakes). Show the final consumption pattern after trade. Check that both countries are better off. Check no one is worse off.

	Beans	Cakes
Estonia	30 – 15 = 15	0 + 7.5 = 7.5
Finland	5 + 15 = 20	35 – 7.5 = 27.5
Total	35	35

RULES FOR DOUBLE ADVANTAGE AND DISADVANTAGE

1. Work out pattern of comparative advantage
2. Weak economy completely specialises according to comparative advantage
3. Strong economy does not completely specialise – it makes up for the lost output in its weak product and then uses remaining resources to make its strong product

6. How do you deal with input rather than output data?

Sometimes the information given in a question focuses on the resource inputs needed to make a product rather than the possible production or output from a given amount of resources. For example the information in the table shows the hours needed to make 1 computer and 1 ton of wheat in the Thailand and Australia.

	Hours needed to make 1 computer	Hours needed to make 1 ton of wheat
Australia	15	5
Thailand	5	10

The easiest way to approach these questions is to turn the input data into output data by assuming the countries have a certain number of hours available (e.g. 60).

Step 1: Turn the input data into output data. Assume they have 60 hours of resources available.

	Production of computers in 60 hours	Production of wheat in 60 hours
Australia	60/15 = 4	60/5 = 12
Thailand	60/2 = 12	60/10 = 6
Total production	16	18

	Opportunity cost of 1 computer	Opportunity cost of 1 wheat
Australia	3 wheat (12/4)	0.33 computers (3/12)
Thailand	0.5 wheat (6/12)	2 computers (12/6)

Step 2: Work out opportunity cost (using the 'other goes over rule')

Australia should specialise in wheat and Thailand should specialise in computers.

Note: If you have to work out opportunity cost directly from input data the rule changes to 'other goes under'. For example, if it takes 15 hours to make a computer in Thailand and 5 hours to produce wheat the opportunity cost of a computer is loss of 3 units of wheat (15 hours / 5 hours).

Student Activity 2.2

1. Two countries, Austria and Belgium, make Apples and Biscuits. With half of their resources allocated to each product Austria can produce 15 Apples and 5 units of Biscuits, and Belgium can produce 10 Apples and 20 units of Biscuits.

Step 1: Put the data in a table. Countries normally go in column 1, and products in row 1.

	Apples	Biscuits
Austria		
Belgium		
Total		

Step 2: Calculate the opportunity cost of making each product in each country.

	Apples	Biscuits
Austria		
Belgium		

Step 3: Countries specialise in products where their opportunity cost is lowest. Austria makes _____ and Belgium makes _____.

Step 4: Work out production levels when countries specialise according to pattern of comparative advantage. Remember it is assumed that doubling resource inputs will double the level of output.

	Apples	Biscuits
Austria		
Belgium		
Total		

Step 5: Output has increased but for welfare to increase countries have to trade. What range of terms of trade will yield gains for both countries?

Step 6: Assume the terms of trade are 1 apple = 1 biscuit. What is the final outcome if Austria exports 15 apples at these terms of trade? Are both countries better off as a result of this trade?

	Apples	Biscuits
Austria		
Belgium		
Total		

2.5 SHOWING GAINS FROM TRADE USING A PRODUCTION POSSIBILITY MODEL

1. How can the gains be shown using production possibility models?

Production possibility models can be used to demonstrate that trade allows a country to consume outside its production possibility frontier. This is shown in the following diagram.

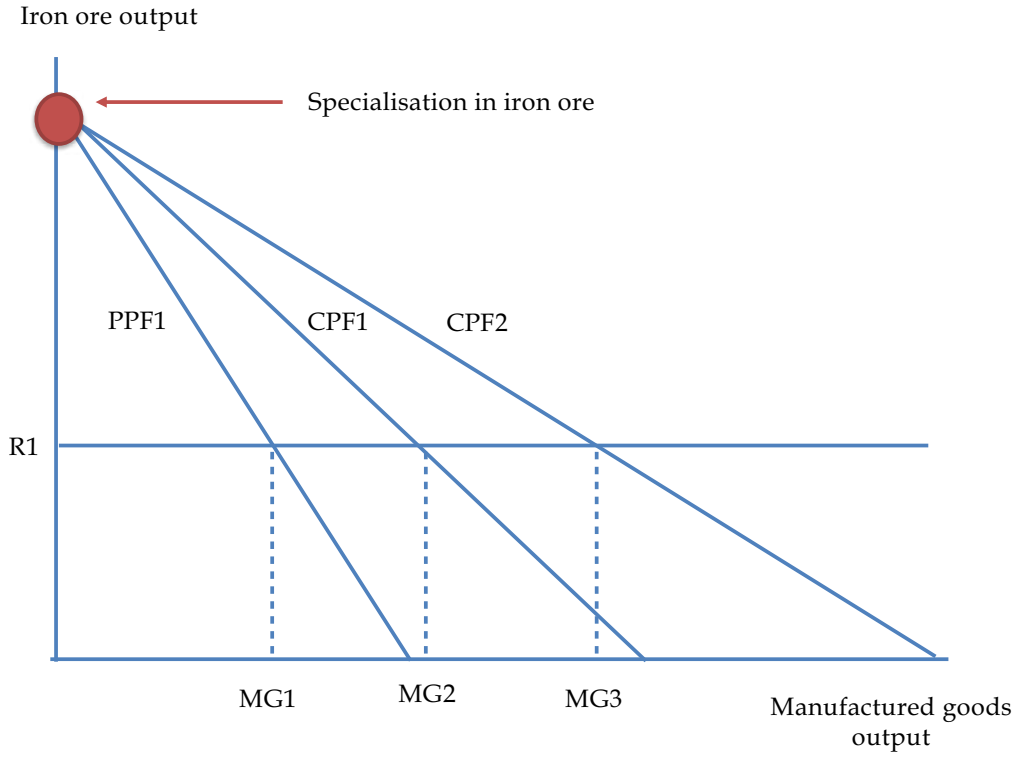
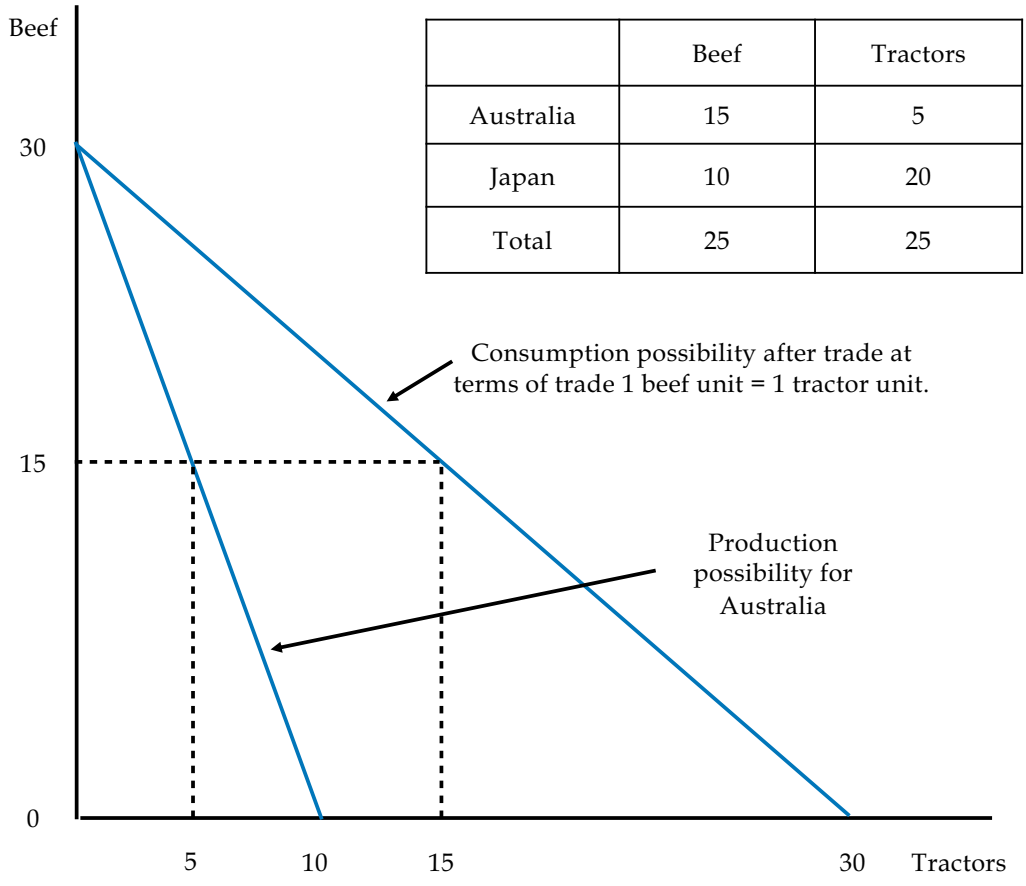


Figure 2.3

- Without trade the opportunity set for the economy is restricted by PPF1. For example production of R1 resources limits the economy to the production of MG 1 manufactured goods.
- If the economy specialises in iron ore production and exports iron ore in exchange for imported manufactured goods at a cost lower than the opportunity cost of making them itself, people in the economy can consume at levels outside the limits of PPF1
- If the terms of trade move further in their favour even more manufactured goods can be bought with R1 level of resource exports (level MG3)

2. Can you show the gains in a worked example?

The table shows the output of cars and tractors in Australia and Japan when half of their resources are used in the production of each product.



	Beef	Tractors
Australia	15	5
Japan	10	20
Total	25	25

Figure 2.4

- Australia has a comparative advantage in beef and therefore specialises in beef production, producing 30 units of beef and 0 tractors.
- Assume the terms of trade are 1 beef unit = 1 tractor unit.
- If Australia exports 15 units of beef it can import 15 units tractors
- Consumption of grain rises in Australia without loss of any beef.

Student Activity 2.3

1. Figure 2.5 shows the production combinations of beef and corn in Australia and Japan.

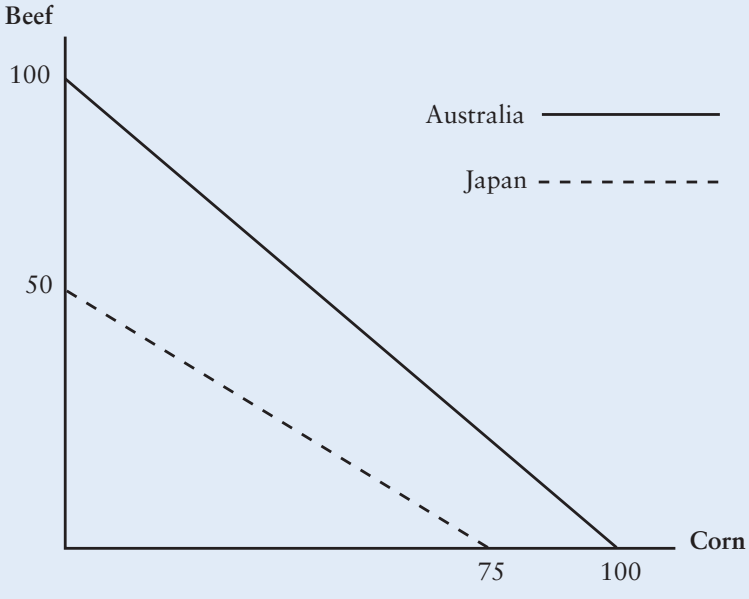


Figure 2.5

(a) What is the gradient of the Japanese PPF? _____.

(b) What is the opportunity cost of producing 3 extra unit of corn in Japan (in terms of lost beef)?

_____

_____

(c) Sketch on the diagram the consumption possibility line for Japan if they are able to get 3 ton of beef per 2 units of corn.

(d) What is the gradient of the Australian PPF?

_____

_____

(e) What is the opportunity cost of producing 1 extra unit of corn in Australia (in terms of lost beef)?

_____

_____

(f) Sketch on the diagram the consumption possibility line for Australia if they are able to get 1 unit of corn per 1 ton of beef.

(g) For both countries to gain from trade, the terms of trade must lie between what range of opportunity cost?

_____

_____

3. **Does comparative advantage determine the pattern of international trade?**

The principle of comparative advantage has some influence on the general shape or pattern of international trade. For example, the principle appears to explain the pattern of trade between Australia and China, with Australia exporting commodities to China and China exporting manufacturing goods to Australia. But there are more factors than comparative advantage that determine the real world pattern of trade and remember there was a longish list of assumptions listed at the start of this comparative advantage section. These factors include:

- **Some important costs are ignored:** There may be transport costs to consider. Trade intensity tends to be higher with nearby countries than distant ones.
- **Diminishing returns:** The output from many resources is subject to diminishing returns. This makes production possibility frontiers non-linear and means that two medium size producers may be able to operate as efficiently as one very large producer.
- **Structural unemployment:** Resources, particularly labour resources, may not be as mobile as assumed in theory. To avoid structural unemployment countries may choose to limit the extent of specialisation.
- **Relative prices and real exchange rates:** Exchange rates may not reflect the fundamental strengths or weaknesses of an economy and may distort international prices.
- **Comparative advantage is not a static concept:** Industries within an economy may become more efficient over time e.g. the exploitation of shale oil resources in the

US, and the development of coffee in Vietnam, or it may become less efficient e.g. manufacturing industries in southern European countries.
- **Government protectionist policies:** Countries may protect one or more of their industries for security reasons such as maintaining reliable food and energy supplies and maintaining employment in socially sensitive areas. These reasons for protectionism are examined in Chapter 3.
- **Global value chains:** The two-good/two-country model is very simple and the real world is very complex. As a result of the process of globalisation products are often made across many countries rather than in just one place.

2.6 DYNAMIC GAINS FROM TRADE

1. What apart from comparative advantage generates gains from trade?
In addition to the static gains associated with a more efficient allocation of resources, there are a number of dynamic gains that may influence the overall gains from trade. Even where there is no comparative advantage, trade can generate dynamic gains.

2. What is the source of these dynamic gains from trade?
Dynamic gains from trade are usually as important, if not greater than, the static gains based on comparative advantage. Trade allows business and consumers to change the way they behave. There are five important sources of dynamic gains from trade:
- **Economies of scale:** In many areas of production the average or unit cost of production falls as the scale of production increases. For example, it costs less per book to produce this Study Guide when the print run is 10,000 copies than when the print run is only 1,000 copies. The cost savings per book come, for example, from specialisation, spreading sunk costs and bulk buying. Trade allows specialisation and specialisation allows production to be carried out on a bigger scale. A country that specialises its production is likely to move up the learning curve and achieve learning economies. They will learn from their experience, be able to develop and use new technology and innovate.
- **Competition and reduced monopoly power:** Intra-industry trade is a common feature of the world economy. A country might, say, export apples and import apples. Competition from international rivals making the same product adds to competition in markets and potentially makes production more efficient. Competition from imported products helps moderate wage claims. Lower wage levels reduce 'real-wage' or 'classical' unemployment levels. So in many cases imports do not wipe out local producers but they do compete for market share with local producers. The spur of competition encourages firms to make cost savings and to operate efficiently.
- **Range of products:** Trade provides consumers with a bigger range or choice of products. Consumers may relish the opportunity to choose between international brands or locally made products.
- **Interdependence and the 'peace dividend':** Trade makes countries dependent on each other. Trade creates mutual interdependence. People who are dependent on each other are highly unlikely to wage war on each other. The anticipated 'peace dividend' was an important factor in the creation of the European Common Market which later became the European Union. Note that it is claimed that no two democracies have fought a war against each other, nor two countries in which McDonald's operates. There are exceptions, of course, as for example when sanctions were imposed on Russia in 2014.
- **Reduction of administrative costs:** Freer trade means fewer problems for exporters. Firms do not have the expense of checking and complying with so many rules and regulations at the border when they trade.

3. What is the evidence that dynamic gains are important?
Dynamic gains explain why countries with similar factor endowments still trade with each other. For example, 70% of trade in the European Union is intra-industry trade. Germany, for example, makes cars and sells them to domestic and international consumers. Germany also imports cars. Clearly they are not specialising according to

the law of comparative advantage. The reason for the trade lies in the dynamic gains from international trade. Perhaps consumers like the extra choice and branded products that intra-industry trade brings and having two or more countries producing similar products adds to competition, reducing the monopoly power of each separate producer.

Student Activity 2.4

1. Outline four reasons why the pattern of comparative advantage does not fully account for the pattern of world trade.

2. Explain the meaning of the term 'economies of scale'. Why does trade give producers greater opportunities for exploiting economies of scale?

3. How does trade allow consumers to benefit from greater competition between producers?

4. Give an example of a product that is both made in Australia and imported into Australia? Why does this happen?

2.7 REASONS FOR PROTECTIONISM

1. **What are the main valid reasons for protectionism?**
Protectionism may be valid in some circumstances. These circumstances include:
- **Short-term economic crisis:** The need for short-term measures during an economic crisis (e.g. support for the aviation, tourism and hospitality industries impacted by government restrictions during the Covid-19 pandemic) and support for strategic industries needed for recovery (e.g. medicines and personal protective equipment).
- **National security:** The national security argument for protectionist measures supports the government protection of strategic industries. These are industries

that the government considers to be very important for the country's economy or the safety of its citizens (e.g. the need to control production of submarines, steel production, research, pharmaceuticals and food).

- **Infant industries:** Support of an infant or sunrise industry while it develops and grows sufficiently to benefit from economies of scale (e.g. some green technology industries)
- **Global warming:** The need to address global warming, e.g. using border restrictions to reduce imports from countries that haven't introduced appropriate GHG reduction policies and providing early stage subsidies to firms developing green technologies and other climate solutions.
- **Dumping:** Domestic producers may be affected by dumping e.g. from a flood of unduly cheap products exported by overseas producers in order to clear surplus supply, damage existing suppliers or increase export sales. Most countries use protectionist measures such as anti-dumping duties, to avoid having goods dumped into their domestic markets and these duties are approved by the WTO. Cheap goods may benefit consumers in the short run, but they can force local producers out of business. When the surplus has been cleared, and the cheap goods have disappeared, there may be no local producers left to supply the market. Determining whether or not products are being dumped is not straightforward, however. Are Chinese goods relatively cheap in the US because the exporters have a genuine competitive or comparative advantage or because Chinese exporters are seeking an unfair advantage?
- **Managed decline of sunset industries:** Short-term support can be justified to allow for the managed decline of a sunset industry, to provide time for retraining and the growth of new employment opportunities.
- **Quarantine:** Quarantine measures and food standard regulations to protect to local producers.

2. What are some of the more questionable reasons for protectionism?

Protectionist measures can be used to achieve more questionable objectives. These include:

- **Widening a trade surplus:** Mercantilists' main goal is to 'improve' the balance of trade i.e. reduce a trade deficit or increase a trade surplus. Trade barriers can be used to reduce imports (e.g. finished goods such as washing machines, solar panels or intermediate goods such as steel and aluminium) or promote exports. Protectionism is unlikely to reduce a trade deficit, and it is not clear why a government would want to do this. Protectionism increases the cost of imports and harms export performance. The trade deficit is influenced by flows of foreign investment and flows in the capital and financial account of the balance of payments.
- **Strengthening political support:** Increasing protection is a headline grabber and an easy populist measure. While the gains from free trade, such as the reduced cost of imported goods and the reduction in poverty in far off countries, are diffuse, distant, long-term and difficult to quantify, the closure of a local factory unable to compete with cheaper imports is focused, local, short-term and obvious to all.
- **Punishment:** Governments may impose sanctions on other countries as punishment for perceived violations of international law e.g. invasion of territory, human rights violations, theft of intellectual property and the use of chemical weapons. For example, the US has threatened Mexico with tariffs to force them to control refugee flows through Central America to the US.
- **Retaliation to counter unfair practice:** Retaliatory action may be used to counter unfair practices overseas (e.g. state ownership of an industry, subsidies paid to producers, availability of cheap electricity, management of exchange rates, stealing and then using intellectual property, and the dumping of surplus stocks).
- **Burden sharing:** Protection may seek to maintain output and employment in sensitive areas of the economy to avoid the social and economic problems of 'rust belt' or depressed areas. However, there are other ways of supporting depressed or low-income areas in an economy.
- **Support of iconic or emblematic industry:** Industries that have been successful in the past should be allowed to fade away gracefully rather than being kept going through an undignified old age.

3. **What global factors are behind increased protectionism?**

The reasons behind the trend toward increased protectionism include:

- A growing awareness of the uneven distribution of the gains from globalisation within and between economies.
- A need to restructure production and consumption in order to decarbonise economies.
- The scarring or damage experienced during the Global Financial Crisis of 2008.
- The development of 'great power competition' e.g. between China and US and more recently Russia and Europe.
- The experience of the pandemic e.g. vaccine distribution, supply disruptions and the need for security of supply.
- Weakness of World Trade Organisation in enforcing its trade rules.

Student Activity 2.5

1. No countries are genuine champions of free trade or buttresses against the forces of protectionism. All countries protect their sensitive products.

   (a) For what reasons might a product be seen as sensitive and worthy of protection?

   (b) Identify two products or producers that the Federal Government considers to have sensitive status in Australia. Briefly, say why each of your examples are considered to have sensitive status.

   (c) List three ways the producers of a sensitive product can be protected from imports.

2. What is dumping? Why is dumping a problem?

3. What is an infant or sunrise industry? Why do they need to be protected? Why might it be difficult for the government to decide when to withdraw support?

_____

_____

_____

4. List two examples of strategic industries. What is the essential difference between a strategic and a sensitive industry?

_____

_____

_____

2.8 WORLD TRADE ORGANISATION (WTO)

1. What is the role of the WTO?

- Over time, countries have developed a number of ways of arranging and regulating the process of international trade.
- The World Trade Organisation (WTO) is the peak global or multilateral body that promotes and governs international trade. Australia, the UK and the European Union are amongst the 160 plus members of WTO. The WTO does not set the level of tariffs that countries have to pay when trade takes place but provides a set of rules that underpin trading arrangements.
- The WTO operates a disputes settlement system to resolve trade disputes. A panel of judges investigates each dispute and then hands down their decision.
- The rules-based WTO system has been challenged by the US threatening to impose tariffs on all imports of steel and aluminium of 25% and 10% respectively, to protect US steel and aluminium producers from cheap imports resulting from over-production of these metals in global markets. The US has also announced bilateral tariffs on a wide range of Chinese exports. The US has also hampered the work of the dispute settlements system by vetoing the election of new judges.

2. What are 'WTO rules'?

WTO member countries have to keep to 'WTO rules' or 'obligations'. The most important of these is the **non-discrimination rule**. This involves two principles, firstly the Most-Favoured Nation (MFN) principle and, secondly, the National Treatment principle.

- **Most-Favoured Nation (MFN) Principle:** This principle means that any concession offered by a country to one of its trading partners must also be offered to all its other trading partners. For example, if the UK set a tariff level of 25% on imports of South African wine it could not impose a 50% tariff on imports of Australian wine. Countries are allowed to set tariffs at different levels for different goods (e.g. the EU imposes a 32% tariff on wine, a 9.8% tariff on cars and a 4.1% tariff on LNG) but they can't impose different tariff levels on different countries for the same goods.
- **National Treatment Principle:** This means that imported goods must be treated the same as domestically produced goods after they have crossed the border (e.g. there can't be different technical and safety standards applied to domestic and imported goods)

3. **Are there exceptions to these rules or obligations?**
   - The WTO does allow tariffs to be levied on countries deemed to be 'dumping' products into their market. It is often difficult to prove that a product has been sold overseas at a price below the costs of production.
   - The WTO also allows countries to set favourable tariff rates for less economically developed countries (ELDCs). For example, the EU allows tariff free imports from 40 or so of the poorest ELDCs.
   - It also allows countries to set up trading blocs in which trade with bloc members is treated differently to trade with non-bloc members. So discrimination can take place under WTO rules when trade takes place within a trading bloc.

Student Activity 2.6

1. Outline the main roles performed by the WTO.

2. Briefly explain the WTO's 'non-discrimination rule' and its importance.

3. Outline two situations where the WTO allows countries to set tariffs at different levels for imports of the same product from different countries.

4. Outline three factors that limit the WTO's ability to reduce protectionism and solve trade disputes.

2.9 TYPES OF PROTECTION

1. What is a tariff?

A tariff is a form of tax levied 'at the border' on imported products. Tariffs reduce imports by increasing the price of imported products relative to domestically produced products.

2. What is the impact of a tariff on imports and welfare?

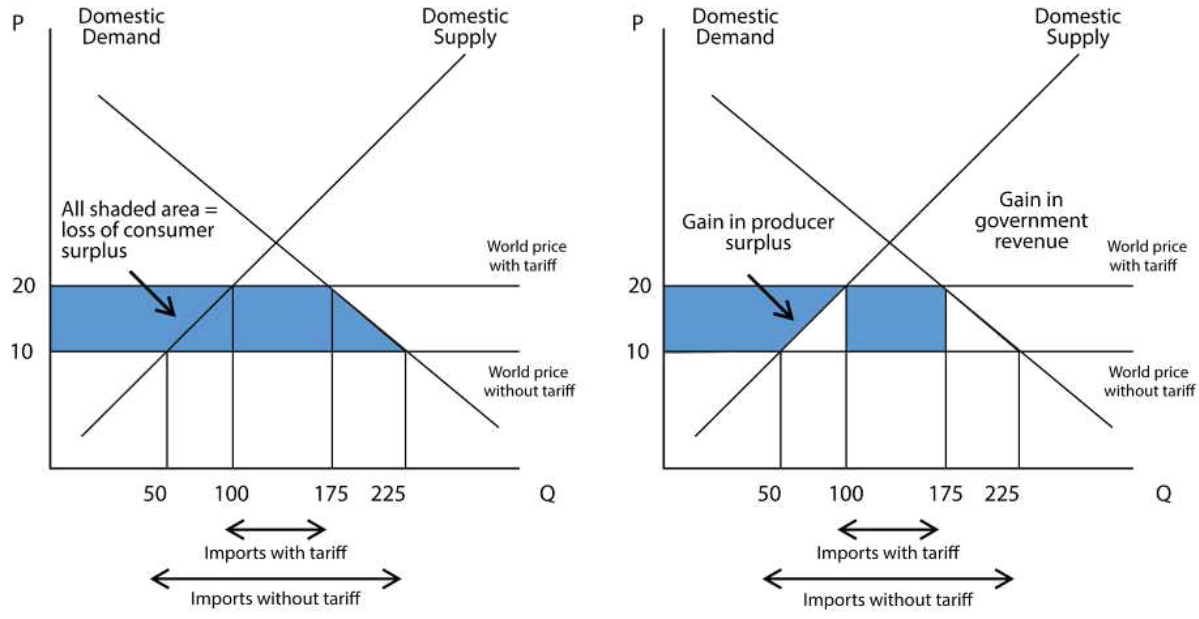


Figure 2.6

In figure 2.6 the price of imports has risen from $10 to $20 as a result of $10 tariff. The result of this is to:

- reduce imports from 175 units (225 – 50) to 75 units (175 – 100).
- reduce consumer surplus (shown as the full shaded trapezium in the left-hand diagram). Consumers buy less (225 units down to 175 units) and pay higher prices for the 175 units they continue to buy.
- increase producer surplus (shown as the small trapezium in the right hand diagram). Domestic producers are now competitive for sales of 100 units rather than just 50\ units.
- raise revenue of $750 for the Government (shown as the shaded rectangle in right hand diagram).
- create, overall, a net loss of welfare or deadweight loss. The extent of the deadweight loss is the shown by the area of the two small triangles in the right hand diagram.

The diagrams only show what happens where is a unilateral tariff cut. In reality, this is likely to be part of a broader free trade and investment agreement with other countries. It also assumes that the rise in government revenue was recycled into the economy and used to provide public and merit goods and services. Reducing competition may cause domestic producers to become complacent and inefficient. The rise in prices may contribute to inflation. The domestic supply curve could shift up and to the left.

Student Activity 2.7

1. Complete the table, comparing the tariff and non-tariff situation in a market.

	Without a tariff	With a tariff
Price paid by consumers		
Quantity of goods bought by consumers		
Level of consumer surplus		
Level of producer surplus		
Government revenue from tariff		
Overall deadweight loss		

2. Assume the diagram below shows the impact on the market for T-shirts.

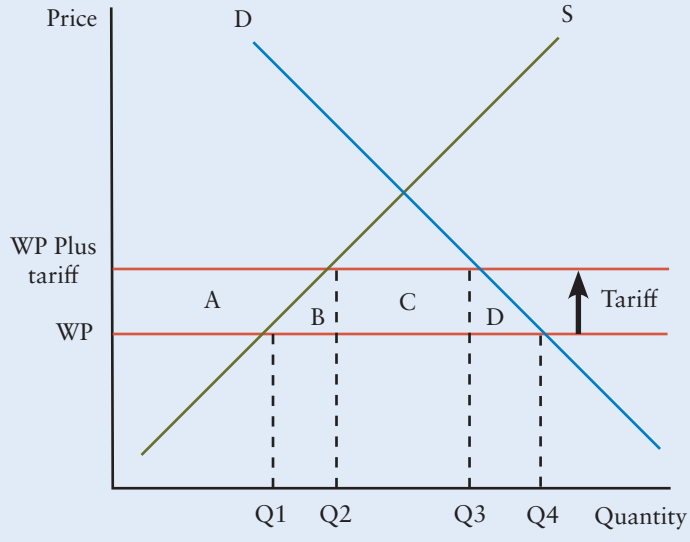


Figure 2.7

What has happened to the following as a result of the tariff?

(a)	The quantity of T-shirts imported.	
(b)	The tariff revenue collected by the government.	
(c)	The price of T-shirts in the economy.	
(d)	The consumer surplus received by people who buy T-shirts in this market.	
(e)	The producer surplus received by T-shirt producers in this economy.	
(f)	The overall impact on community welfare generated by the market.	

2.10 SUBSIDIES

1. What is a subsidy?

Government subsidies are paid to domestic producers to reduce overall production costs. The subsidy increases supply, shifting the producers' supply curve down and to the right.

2. What is the effect of a subsidy on imports?

Subsidies increase domestic producers' willingness to supply, and cause downward shift in the supply curve by the amount of the subsidy.

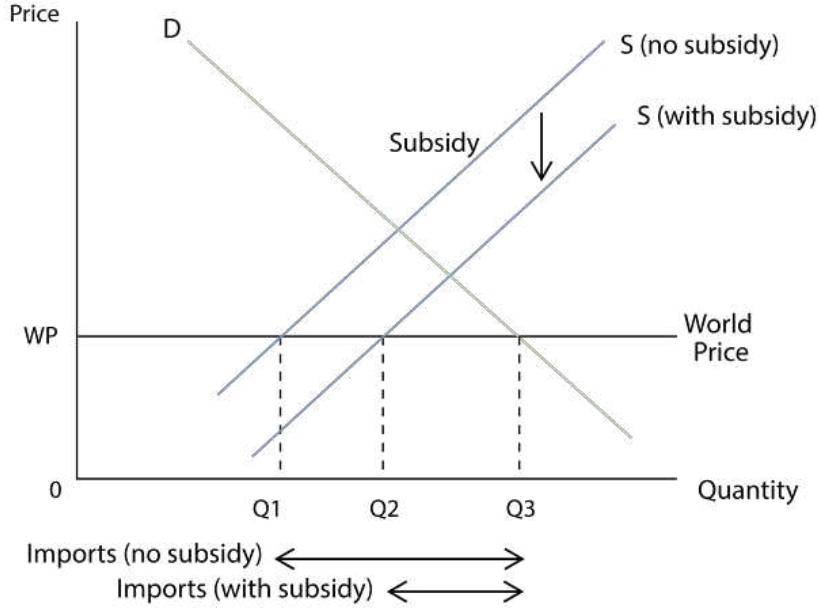


Figure 2.8

- In figure 2.8, given the price of imports is Pw (world price), without a subsidy domestic suppliers will become uncompetitive at quantity OQ1. The rest of the market is supplied by imports (OQ3 – OQ1).
- With the subsidy domestic producers stay competitive until output OQ2. They are able to sell OQ2 and imports are reduced to OQ3 – OQ2.
- As with a tariff, there may be dynamic effects as a result of payments of a subsidy. Domestic producers may become slack and inefficient if they are confident the government will pay them a subsidy. This slackness could cause the domestic supply curve to move up and to the left again. However, there may be positive externalities created by the government support such as protection of employment in a region or the need for security of supply.

3. Does a subsidy lead to deadweight loss?

- Consumers can buy more and pay less for the product. Consumer surplus rises (area of the blue trapezium).
- Producers can sell more and with the subsidy receive more. Producer surplus rises by the area of the green trapezium).

- The government is subsidising production level Q2 by the amount of the subsidy. The total cost is the rectangle formed by the combined area of the green, blue and orange shapes.
- Welfare has fallen by the cost of the subsidy less the combined gains in consumer and producer surplus. The deadweight loss is the area of the orange triangle.

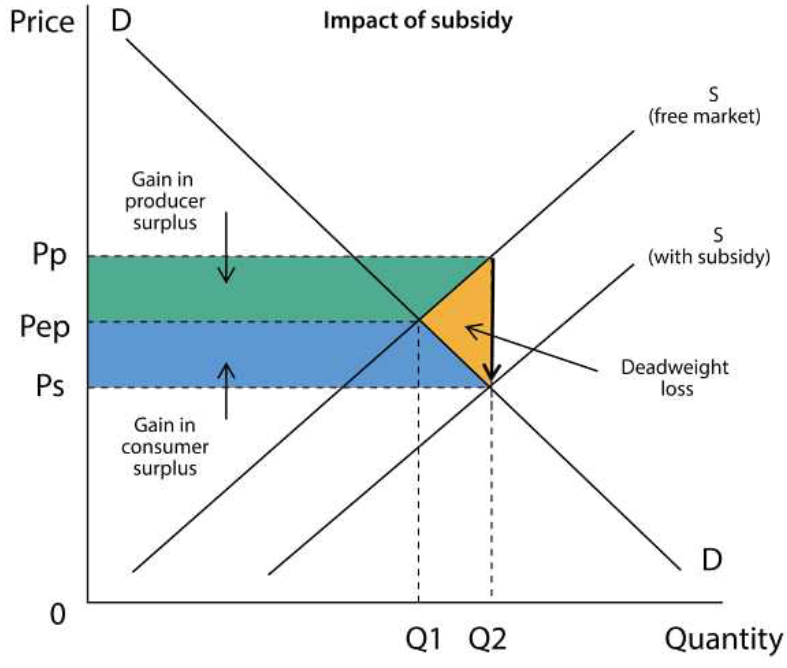


Figure 2.9

Student Activity 2.8

1. Explain how production subsidies lead to a reduction in imports.

_____

_____

2. Explain how production subsidies lead to welfare loss.

_____

_____

2.11 QUOTAS

1. What is a quota?
A quota is a quantitative limit on imports, e.g. 60,000 cars a year. Importers are required to obtain (for a fee) an import licence and once all licences have been allocated no further imports of the product can take place. A zero quota is called an embargo.

2. How does a quota control the level of imports?
A quota sets the quantity of a product that can be imported (e.g. OQ3 – OQ2 in the diagram below).

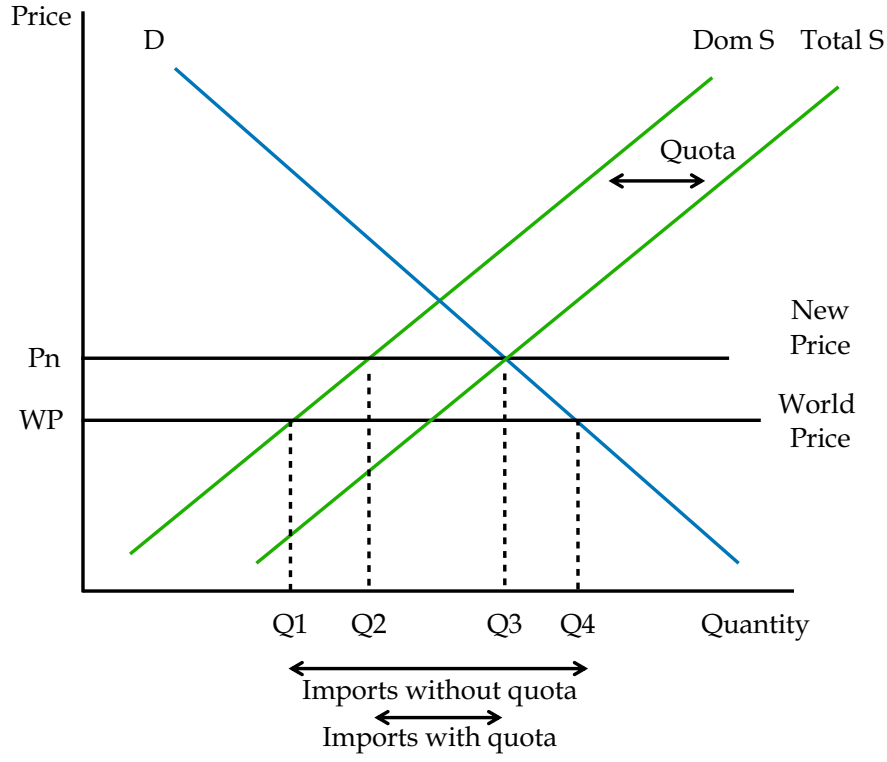


Figure 2.10

- Without the quota, imports would be Q4 – Q1 and consumers would pay the world price WP.
- With the quota in place supply is reduced, leading to a rise in the price of the product to Pn and a contraction in demand and supply until the level of imports has been reduced to the quota.

3. **How does a quota affect welfare?**
The overall impact of a quota is as follows:
- Domestic producers gain: They sell more (Q2) and at a higher price (Pn). There is a rise in producer surplus.
- Domestic consumers lose: They pay more (Pn) and buy less (Q3). The whole of the big trapezium shows the size of the loss of consumer surplus (as if the rise in price had been caused by a tariff).
- Overseas producers sell less, but they get a higher price for what they do sell.
- The deadweight loss caused by a quota is greater than an equivalent tariff because a quota does not directly generate revenue for the government. However, the government can sell import licences to producers as a way of allocating imports within the quota, and this raises some revenue.

Student Activity 2.9

1. Compare the impact of a tariff and a quota on the price paid by consumers, the quantity of imports and the amount of deadweight loss.

2.12 OTHER FORMS OF PROTECTION

1. **What additional barriers can governments use to affect trade?**
Governments can use a range of protectionist measures both 'at the border' (e.g. tariffs) and 'behind the border' (e.g. subsidies and quotas). These measures include:
   - **Hybrid measures such as Tariff-Quotas (TQ's):** One or more measures can be combined to create more flexible and effective trade barriers. For example, Tariff-Quotas which are essentially two-tier tariffs, with one tariff rate being applied to imports within the quota and a higher tariff rate being applied when the quota has been reached. Complex rules define when an import is in-quota or outside the quota. Also tariffs and quotas can be combined with rules of origin or local content laws, with producers facing import restrictions if the source of components falls below a given level.
   - **Voluntary export restraint agreements (VERs or VRAs):** VERs or VRAs are agreements between traders to limit, on a voluntary basis, the quantity of exports to be sold in a market over a given period of time. Exporters may volunteer to behave in this restrained way to avoid harsher measures being introduced or to avoid falls in prices in their export markets. These agreements are essentially voluntary quotas.
   - **Administrative requirements, safety rules and design specifications:** These include import-blocking mechanisms such as customs administration processes, the need for import licences and the need to conform to product standards and certification. Traded goods have to adhere to, for example, technical and safety standards and pass a 'conformity assessment' to prove these standards have been met. Governments are quite inventive when it comes to regulating import markets. While some regulations are clearly justified, e.g. quarantine restrictions, other regulations are more problematic and are designed to impose compliance costs on importers.
   - **Exchange controls:** The government may withhold access for potential importers to foreign currency. Imports are reduced because importers can't get hold of the money needed to pay for them.
   - **Discretionary government procurement policies:** Governments are big spenders and they can restrict imports by buying locally made products as a matter of policy, even if imports (e.g. submarines) offer better value for money.
   - **Rules of Origin and Local Content Laws:** Products, such as cars or electrical equipment, are often assembled from components made in many countries across the world rather than being wholly produced in one country. Governments may set rules that require a given percentage of the final product be made in the exporting country (e.g. to qualify for tariff free access) or include a given percentage of domestic inputs before it can be imported at all.
   - **Currency manipulation:** Unorthodox monetary policy measures can be used to improve international competitiveness through a currency depreciation.
   - **Foreign investment incentives:** Direct payments or privileged access to infrastructure can be offered to potential foreign investors in order to encourage production within an economy.

Student Activity 2.10

1. Define the term 'protectionism'.

_____

_____

2. Summarise the different kinds of trade barriers by completing the following table.

Protectionist Measure	Brief description	Example

2.13 THE IMPACT OF PROTECTIONISM

1. **How does protectionism harm economic performance?**
It is important to keep the costs of protectionism clear.
Growth: Protectionism reduces actual and potential growth by:
- allocating resources to areas where they are used in a relatively inefficient way.
- reducing aggregate demand by reducing real incomes and making it harder to sell exports (see below).
- reducing incentives by introducing moral hazard to protected workplaces by allowing poor practice to continue without consequence.

Inflation: Protectionism causes inflation because:
- competition from overseas' suppliers is reduced.
- production costs may rise because economies of scale may not be possible and imported inputs may cost more.
- wage costs may rise due to workers making higher wage claims based on higher (protected) profits and a reduced fear of work being lost to low-wage economies.

Employment: Protectionism causes an overall increase in unemployment despite the protection afforded to workers in protected industries by:
- reducing the rate of growth.
- causing inflation.
- making export industries less competitive.

Exports: Protectionism can hit exports by:
- encouraging retaliation from other countries.
- forcing up costs for domestic producers by making some imports more expensive and reducing the level of competition.
- reducing the international spending power of other countries because they have not been able to export as much as before.
- forcing up the exchange rate value of the currency because of the reduction in imports.
- adding competition to our export markets because overseas suppliers may divert their exports to countries that were our export markets.

More protectionism or reverse-globalisation will result in:
- More balanced economies: Countries will not want to rely on others for the supply of strategically important goods and services.
- The pattern of world trade will become even more regionalised e.g. in Europe or Asia.
- Many economies will experience slower growth, higher inflation and a reduction in living standards.

SO YOU THINK YOU UNDERSTAND TRADE AND PROTECTIONISM	
Two areas of gains from trade 1 2 **Five areas of dynamic gains from trade** 1 2 3 4 5	**Two main categories of protectionism** 1 2 **Seven examples of non-tariff barriers** 1 2 3 4 5 6 7
Model 1 – Consumer and Producer surplus	**Tariffs**
Model 2 – Comparative Advantage	**Sketch subsidy diagram to show fall in imports and deadweight loss**
Rules for calculating opportunity cost **Rules for double advantage examples** 1 2 3 **Rule for dealing with input data:**	**Sketch quota diagram to show fall in imports and deadweight loss**
Seven key assumptions about calculations 1 2 3 4 5 6 7	**Seven reasons for protectionist measures** 1 2 3 4 5 6 7

SO YOU THINK YOU UNDERSTAND TRADE AND PROTECTIONISM	
Seven problems with comparative advantage 1 2 3 4 5 6 7	**Four reasons protectionism harms growth** 1 2 3 4
Seven factors affecting comparative advantage 1 2 3 4 5 6 7	**Three reasons why protectionism increases unemployment** 1 2 3
Model 3 – PPF diagrams	**Four reasons protectionism causes inflation** 1 2 3 4
Role of World Trade Organisation	**Five reasons why protectionism makes it harder to export** 1 2 3 4 5

TEST YOUR KNOWLEDGE

Trade and Protectionism Multiple-Choice Questions

Questions 1 and 2 refer to the data in the table that shows output levels in two economies when half the resources are used to make each product.

	Corn	Cars
Country R	120	10
Country S	200	30

1. What is the opportunity cost of making a car in each country?
   (a) 12 units of corn in Country R and 15 units of corn in Country S
   (b) 12 units of corn in Country R and 20 units of corn in Country S
   (c) 10 units of corn in Country R and 30 units of corn in Country S
   (d) 200 units of corn in Country R and 120 units of corn in Country S

2. Which of the following is a correct statement?
   (a) Country R has an absolute advantage in the production of both products.
   (b) Country R has a comparative advantage in the production of corn.
   (c) Country S has a comparative advantage in the production of both products.
   (d) Country S has a comparative disadvantage in the production of cars.

3. Which of the following creates unfair conditions for international trade?
   (a) Countries have different resource endowments.
   (b) Industries in some countries receive production subsidies from their governments.
   (c) Wage levels are not the same in all countries.
   (d) Some countries are close to each other while others are more isolated and therefore have to pay higher transport costs.

4. Which of the following is UNLIKELY to be a source of dynamic gains from free trade?
   (a) Improved efficiency as a result of an increase in competition between producers.
   (b) The ability to consume outside the economy's production possibility frontier.
   (c) An increase in the range of products available to consumers.
   (d) Improved efficiency from economies of scale as a result of specialisation.

5. Which of the following is true if a country has a comparative advantage in the production of a product?
   (a) The country also has an absolute advantage in the production of that product.
   (b) The country should allow another country to specialise in the production of that product.
   (c) There is a relatively low opportunity cost when the product is made.
   (d) Trade in this product should only take place with other countries that have a comparative advantage in this product.

6. Which of the following is a strong economic argument for protectionism?
   (a) Long run support for an industry on infant industry grounds.
   (b) Tariffs are an effective way of raising revenue for the government.
   (c) To protect an industry against imports from countries where wages are low.
   (d) To protect an industry against imported products that are being sold below normal price levels.

7. The theory of comparative advantage suggests that welfare is increased when:
   (a) the government imposes barriers to international trade to protect industries that produce at an absolute disadvantage.
   (b) the government imposes barriers to international trade in industries where production is relatively efficient.
   (c) the government does not impose any barriers to international trade.
   (d) the government imposes barriers to international trade in industries where labour productivity is relatively low.

8. An industry that is being protected because of broad social or cultural objectives is said to be:
   (a) Strategic
   (b) Sensitive
   (c) Infant
   (d) Comparatively advanced

9. Using measures to reduce imports in order to improve an economy's balance of trade is likely to be counter-productive for all but one of the following reasons. Which one is the odd one out?
   (a) Fewer imports push up the economy's exchange rate, reduce import prices and increase import volumes again.
   (b) Putting tariffs on imports encourages retaliation from other countries.
   (c) Protectionist policies raise the costs of domestic producers by increasing the price of their imported inputs. This means that export price will rise and exports sales will fall.
   (d) Tariffs raise the level of real income in the economy and this leads to households increasing their consumption of imported products.

10. Which of the following is the least satisfactory reason for providing effective assistance to an industry threatened by imports?
   (a) The assistance is part of a managed decline of a sunset industry.
   (b) The assistance is part of a policy to protect an infant industry in the short term.
   (c) The assistance is protecting an industry against dumping.
   (d) The assistance reduces the level of imports from countries that have plentiful supplies of cheap labour.

3 BALANCE OF PAYMENTS

SYLLABUS CHECKPOINTS

- ☐ The concept and structure of Australia's balance of payments
- ☐ The double entry system of recording transactions
- ☐ The reasons for Australia's current account balance in terms of the factors influencing:
  - The trade balance
  - The income balance
- ☐ The current account balance and the savings/investment gap
- ☐ Trends in Australia's current account and financial account over the last ten years

ESSENTIAL GUIDE TO THE BALANCE OF PAYMENTS	
1	The balance of payments accounts are a record of the financial flows between Australia and the rest of the world over a period of time.
2	The accounts are divided into two main sections, the current account and the capital and financial account. Financial flows linked to trade and incomes are recorded in the current account and financial flows linked to capital and foreign investment are recorded in the appropriately named capital and financial account.
3	Financial inflows are recorded with a plus (+) sign and are referred to as credit entries, and financial outflows are recorded with a minus (-) sign and are referred to as debit entries.
4	Overall, the accounts must balance or add up to zero. First, they are constructed according to the principles of double-entry bookkeeping. Second, as the accounts are market-based, total financial inflows must equal total financial outflows because the value of the Australian Dollar is also market-based, with its value constantly changing to ensure that demand and supply in the foreign exchange market remain equal. Third, a 'net errors and omissions' or balancing item is added to the capital and financial account to account for recording errors.
5	The current account is divided into four sub-accounts: goods, services, primary incomes and secondary incomes.
6	The current account is in deficit if the value of the combined outflows (or debits) from these sub-accounts is greater than the value of the combined inflows (or credits). The current account is in surplus if the combined inflows are greater than the combined outflows.
7	The capital and financial account is divided into two sub-accounts: the capital account and the financial account. A third item called 'errors and omissions' is added to this side of the balance of payments accounts to cover sampling errors and untraced transactions.
8	For 44 successive years to 2019–20 Australia recorded a current account deficit (reaching a maximum of 7% of GDP) but in 2019–20 the current account moved into surplus. While fluctuations in the current account reflect cyclical factors (i.e. changes in rates of economic growth) and shocks (e.g. droughts and floods), long term trends are the result of structural factors (e.g. the level of foreign investment inflows, the exchange rate, the terms of trade and the relative level of international competitiveness).
9	A current account deficit is neither a bad result nor a good result. While a deficit is consistent with Australians living beyond their means, consuming more than is being produced domestically, it is also consistent with an economy performing strongly and in need of imported finance for investment needs and overseas investors wanting to lend us money or buy our assets.
10	The move to a current account surplus reflects slower growth in Australia and a shift from a mining and energy capacity building boom to a mining and energy exporting boom. Fundamentally is reflects a closing of the investment-savings gap.

3.1 THE CONCEPT AND STRUCTURE OF THE BALANCE OF PAYMENTS ACCOUNTS

1. What is recorded in Australia's balance of payments accounts?

The 'balance of payments' is a set of accounts that record and summarise the financial transactions between Australia and the rest of the world over a period of time. The accounts include financial inflows and outflows linked to trade, income and investment. Financial inflows are recorded as credit (or plus) entries and financial outflows are recorded as debit (or minus) entries.

2. How are the balance of payments accounts structured?

The Balance of Payments Accounts involve two main accounts:

- **The current account:** This is the trade and incomes account. It includes all money flows in and out of Australia arising from exports and imports of goods and services, plus income flows (such as repatriated profits, interest and dividends) and other net transfers (such as guest workers sending money back to their home country, development aid and contributions to the United Nations (UN)).
- **The capital and financial account:** This is predominately the foreign investment account. It shows the change in Australia's net foreign assets due to foreign investment and capital movements.

The two main accounts are divided into a number of sub-accounts that are shown in the table below.

<table>
<tr><th>Current Account</th><th>Capital and financial account</th></tr>
<tr><td>Goods Inflows
Goods outflows
Balance on goods</td><td rowspan="4">Capital inflows
Capital outflows
Balance on capital account
Direct investment inflows
Direct investment outflows
Net direct investment
Portfolio investment inflows
Portfolio investment outflows
Net portfolio investment
Reserve Bank flows
Other financial flows
Balance on financial account</td></tr>
<tr><td>Services Inflows
Services outflows
Balance on services</td></tr>
<tr><td>Balance on goods and services</td></tr>
<tr><td>Primary income inflows
Primary income outflows
Net incomes flows</td></tr>
<tr><td>Secondary income inflows (transfers)
Secondary income outflows (transfers)
Net transfers</td><td>Errors and omissions
(Balancing item)</td></tr>
<tr><td>Balance on the current account</td><td>Balance on capital and financial account</td></tr>
</table>

3. What are the sub-sections in the Current Account?

Financial flows linked to trade and income are recorded in the current account.

Goods	Goods are things that you can load on to a ship or drop on your foot. Examples include primary products (coal, iron ore) and manufactured products (cars and computers).
Services	Services are things you can't drop on your foot or load on to a ship. Examples include tourism, transportation and financial services.
Primary incomes	Primary income flows are associated with ownership of property or factors of production. They include incomes earned overseas and profits, dividends and interest payments linked to foreign investment.
Secondary incomes	Secondary income flows are money transfers. Examples include food aid, remittances from residents temporarily abroad, and allowances received by international students undertaking university studies.

4. What are the sub-sections in the Capital and Financial Account?
Financial flows linked to capital and foreign investment are recorded in the capital and financial account.

Capital account	Capital flows include flows linked to foreign aid programs (as opposed to emergency relief) and flows linked to migration.
Financial account	The financial account includes all foreign borrowing and international sales of assets. These are divided into portfolio flows (involving less than 10% ownership), direct flows (over 10% ownership), financial derivatives, Reserve Bank flows and other financial flows.
Net errors and omissions	There are gaps in the data due to sampling errors and illegal money transfers. The sum involved is derived from the fact that the balance of payments must balance overall.

Student Activity 3.1

1. Define the term 'balance of payments accounts'. What key words should be included in any definition?

_____

_____

2. What is the difference between a credit entry and a debit entry in the balance of payments accounts? List 4 examples of credit entries and 4 examples of debit entries in the current account.

_____

_____

3. In which sub-section of the current account would the following be recorded? State whether they are credit or debit entries.

		Sub-Section of current account	Credit or debit entry?
(a)	Humanitarian aid provided by Australian charities to the Philippines		
(b)	Interest payments made by National Australia Bank to investors from Japan		
(c)	Chinese tourists visiting the Gold Coast in Queensland		
(d)	Sales of iron ore by Australian producers to the Republic of Korea		
(e)	Purchase of new planes by Qantas from Europe		

(f)	Australian students enroll at Harvard University, US, to study for a degree		
(g)	Profits earned by Bunnings from stores in New Zealand		
(h)	Pensions received from the UK by migrants living in Western Australia		

4. Assume the following data refer to Australia's Balance of Payments for a given year.

(i) Goods exports = $273.8b;
(ii) Service exports = $57.3b;
(iii) Primary income inflows = $48.8b;
(iv) Secondary income inflows = $7.7b;
(v) Goods imports = $267.2;
(vi) Service imports = $70.8b;
(vii) Primary income outflows = $87.8b;
(viii) Secondary income outflows = $9.9b.

(a) Enter these data in the table below.
(b) Calculate the balance on goods, the balance on services, the balance on goods and services, the balance on primary income and the balance in secondary income.
(c) Calculate the current account balance.

Goods credits		
Goods debits		
Balance on goods		
Service credits		
Service debits		
Balance on services		
Balance on goods and services		
Primary income credits		
Primary income debits		
Balance on primary income		
Secondary income credits		
Secondary income debits		
Balance on secondary income		
Balance on current account		

3.2 DOUBLE-ENTRY BOOKKEEPING

1. How are financial flows recorded in the accounts?

- The balance of payments accounts are constructed according to the principles of double-entry bookkeeping. Double-entry bookkeeping is an accounting system which recognises that every transaction has two sides, something of economic value is provided (e.g. wheat) and something of equal value is received (e.g. payment for the wheat). Under this system each transaction is represented by two entries of equal value, one entry is a credit (positive) entry and the other is a debit (negative) entry. If all transactions are included and correctly entered, the two entries, therefore, cancel each other out and the accounts will balance.
- For example, if LNG of economic value $1m is exported a credit (or plus) entry is recorded in the current account, and an inflow of $1m is recorded as a debit (or minus) entry in the 'other investment – currency and deposits' section of the financial account or 'other investment – trade credit' section if payment is delayed. Note the inflow of money or currency is recorded as a debit or minus value. The effect on the transaction on the overall accounts is zero.

Transaction	Australian farmers sell $1m of wheat to India.	
Economic value provided	Value of wheat	$1m credit entry recorded in goods section of current account.
Economic value received	Payment for the wheat deposited in bank accounts	$1m debit entry recorded in financial account – other investment – currency and deposits.
Overall change	Nil. Accounts stay balanced.	
Explanation	Wheat exports recorded as a credit entry because economic value has been provided overseas. Payment is received from India in Australia and is recorded as a debit entry in the other investment – currency and deposits section of the financial account.	

Transaction	Australian family have skiing holiday in Japan (total cost = $4000)	
Economic value received	Holiday 'imported'	Value of skiing holiday recorded as debit entry in services section of current account.
Economic value provided	Cost of the holiday	$4000 transferred to Japan from Australian bank accounts – recorded as credit entry in financial account – currency and deposits.
Overall change	Nil. Accounts stay balanced.	
Explanation	Imports are recorded in the current account as a debit entry because they lead to a flow of money overseas. The currency provided to pay for the holiday is recorded as a credit entry in the other investment – current and deposits section of the financial account.	

The Current Account balance is the additive inverse of the Capital and Financial Account balance (and vice versa), which means the sum of the two balances should be zero.

Because the capital and financial account is basically a foreign investment account, it is also true that:

- The Capital and Financial Account Balance equals the savings-investment gap in the Australian economy.
- The savings-investment gap equals the net capital flow and the net capital flow

equals the change in Australia's Net International Investment position. See Chapter 8 for more about these identities.

2. **What are net errors and omissions?**
While the total balance of payments should be zero, this does not always occur in practice. This can be due to measurement errors and omissions, because it is difficult to include and accurately record every single transaction that takes place between Australian residents and the rest of the world. Given that the balance of payment accounts should balance an additional item known as 'net errors and omissions' is added to the capital and financial account to achieve a balanced set of accounts.

3. **What is the impact of Australia's floating exchange rate?**
- The *accounting-based* balance of payments is a record of all financial transactions (goods, services, income, capital and finance) which have taken place between a country's residents and the residents of other countries over the accounting period, normally one year. The accounts are based on 'ex-post' or after-the-event transactions.
- A *market-based* balance of payments can be constructed on a 'ex-ante' basis. In this case the floating Australian Dollar causes the accounts to balance. The value of the Australian Dollar is constantly adjusting from one equilibrium position to another as a result of the interplay of currency supply and demand. When the foreign exchange market is in equilibrium, demand for the currency must equal the supply of the currency and the balance of payments will balance. If demand and supply for the currency are not equal, the value of the dollar changes causing changes in financial flows between Australia and the rest of the world until equilibrium and balance is restored again.

Student Activity 3.2

1. Why do the balance of payments accounts always balance (or sum to zero)?

2. If the current account balance for a given year is +$15b, what is the financial and capital account balance during this year?

3. Why if the accounts always balance are they of interest to anyone?

3.3 RECENT TRENDS IN THE CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

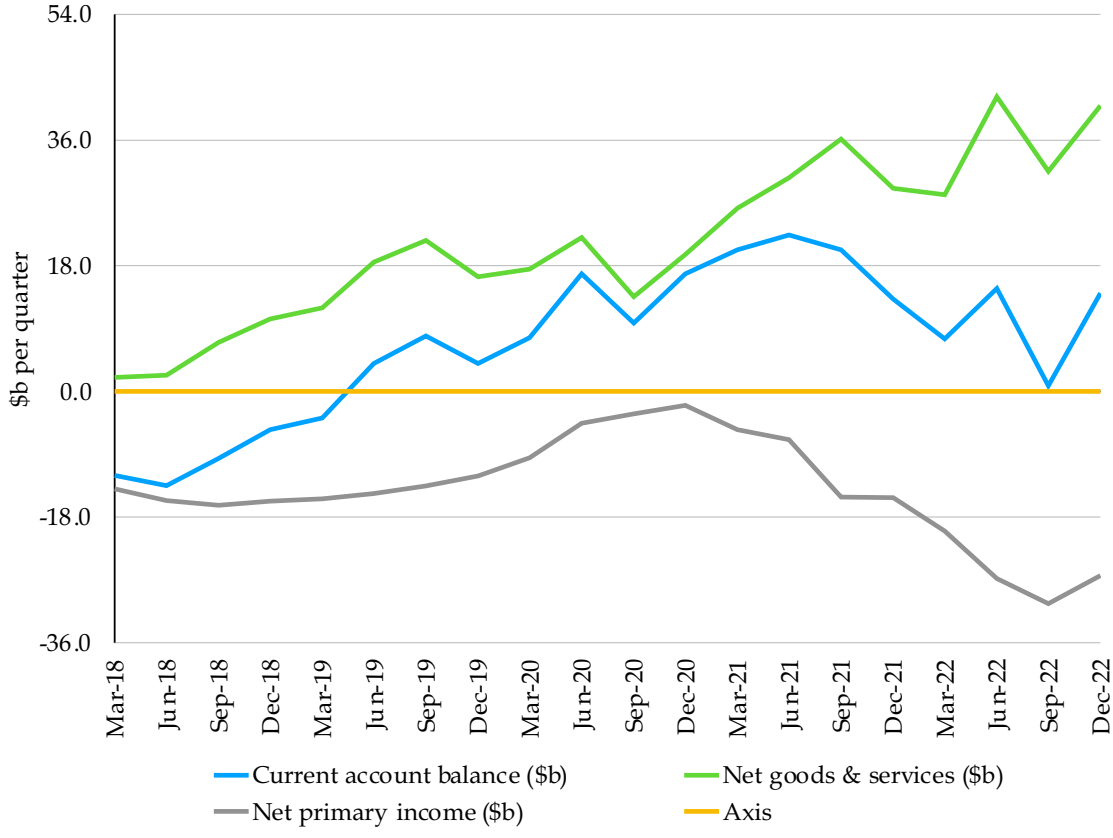


Figure 3.1: Data source: ABS

The chart shows:

- The current account has been in surplus since March 2019.
- The movement in the current account balance mainly reflects movements in the trade balance (or net goods and services). The net income balance (in deficit because of primary income outflows associated with Australia's net foreign liabilities) has been more stable. The net income balance narrowed during 2019 and 2020 but has since widened again.

Student Activity 3.3

1. Using Fig 3.1 above, state the following:

(a)	When did the current account move into surplus?	
(b)	The lowest and highest level of the net incomes deficit during the period of the chart.	
(c)	Whether changes in the current account reflect changes in net goods and services, net incomes or a combination of the two.	

2. Describe the trends in Australia's current account balance over the last ten years.

_____

_____

3.4 A FRAMEWORK FOR ANALYSING CHANGES IN THE CURRENT ACCOUNT BALANCE

1. **What are the three main sources of a current account surplus?**
Shifts in the current account balance are the result of changes in the financial flows recorded in the various sections of the balance of payments accounts. There are three main ways a country can record a current account surplus (other things being equal).
   - The balance of trade (or balance on goods and services) reflects changes in the level and value of exports and imports of goods and services. A trade surplus is where net exports are positive (or the value of goods and services exports exceeds the value goods and services imports). Key factors affecting trade flows are changes in relative international competitiveness (see Chapter 1), protectionism (see Chapter 2), exchange rates (see Chapter 4) and the terms of trade (see Chapter 5).
   - The net incomes balance reflects changes in interest rates which affect the cost of servicing Australia's foreign debt and the stock of foreign-owned equity and the level of profits of linked to this foreign ownership. A net inflow of primary income is the result of greater inflows than outflows of interest payments, dividends and profits. Key factors affecting the net incomes balance are changes in interest rates and their impact on the cost of servicing Australia's foreign debt and the stock of foreign-owned equity and the level of profits of linked to this foreign ownership (see Chapter 6).
   - The financial account balance reflects the level of inwards foreign investment, the level of outwards foreign investment and the level of domestic savings. A financial account deficit is where outward flows of foreign investment exceed inward flows. Key factors affecting the financial account balance are changes in the level of inwards and outwards foreign investment which in turn is affected by Australia's savings-investment gap.

2. **What are the three main reasons why inflows and outflows change?**
Values of inflows and outflows change for three main reasons. These are:
   - Cyclical factors i.e. those related to domestic and overseas economic growth rates. For example, slow domestic growth will reduce the level of imports and high overseas growth amongst our main trading partners will increase the level of exports.
   - Structural factors i.e. non-income related factors including changes in relative international competitiveness, changes in relative exchange rates and terms of trade.
   - Shocks i.e. special events that affect the economy from time to time. They may affect specific export or import markets (e.g. because of droughts or floods) or cause a short-term change in confidence within the economy.

3.5 AUSTRALIA'S RECENT CURRENT ACCOUNT SURPLUS

1. **What are the cyclical reasons behind Australia's current account surplus?**
Cyclical factors include:
   - Lower import demand as a result of the low-growth trap affecting the economy.
   - Strong demand for mineral and energy commodity exports (such as iron ore, nickel, copper, gold, aluminium, coal and LNG) especially from China. For example, China buys 73% of the world's iron ore and Australia supplies 56% of world's ion ore (Source CCIWA).
   - An improvement in the terms of trade as a result of higher commodity prices.

2. **What are the structural reasons behind Australia's current account surplus?**
Structural factors include:
   - The passing of the mining investment boom following the completion of a number of major investment projects in the mineral and energy sector.
   - A fall in imported capital equipment e.g. oil rigs.
   - The closing of Australia's investment-savings gap which means Australia is now a net exporter of capital and has a financial account deficit in the balance of payments (which must, in turn, be reflected in a current account surplus).
   - A rise in the net incomes balance as a result of a reduction in level of net total foreign liabilities and a lower level of outflows of primary incomes due to low interest rates, lower profits for some multinationals and lower dividend payments.

3. **How should the move to a current account surplus be interpreted?**
A surplus in the current account is not necessarily a good thing. The surplus isn't necessarily a reflection of improved economic performance.

- In itself a rise in net exports does create an injection into the circular flow and trigger a multiplier process in the economy, evidenced by the strength of the WA economy and the higher commodity prices and strong demand for minerals and LNG.
- A current account surplus also means a fall in net liabilities as a percentage of GDP, which in turn means a reduction in primary income outflows in the future. However, the level and composition of Australia's foreign debt has not been a cause for concern so the reduction in the level is not of great concern either.
- However, the move to surplus also reflects a fall in imports caused by a fall in incomes and a rise in savings and these contribute to a fall in overall living standards.
- There has also been a fall in capital goods imports which could lead to a reduction in multifactor productivity.
- Changes in the current account balance may also affect the exchange rate (which in turn affects the level of imported inflation) and the terms of trade (which in turn affects real incomes). However, more significant factors than the current account balance tend to influence the exchange rate and the terms of trade.
- The reduction in inwards foreign investment makes it harder to export in future because of the resulting loss of capacity and productivity caused by, for example, capital shallowing (a reduction in capital per worker) and infrastructure bottlenecks.
- Fundamentally the current account surplus reflects the closure of the investment-savings gap and the deficit on the capital and financial account of the balance of payments.

Student Activity 3.4

1. Other things being equal what is likely to happen to the balance of goods and services (BOGS) in the following situations? State whether the cause of the change is cyclical, structural or a shock?

		Impact on BOGS? Why?	Cyclical, structural or shock factor?
(a)	Growth in China weakens		
(b)	Australia experiences a strong recovery		
(c)	Australia's terms of trade improve		
(d)	The USD strengthens by 30%		
(e)	Labour productivity rises in Australia		
(f)	Australia's international competitiveness rises		
(g)	Prolonged drought in Australia reduces exports		
(h)	Australia signs new trade deal with the UK		

2. Other things being equal what is likely to happen to the primary income balance in the following situations? State whether the cause of the change is cyclical, structural or a shock?

		Impact on the net income balance? Why?	Cyclical, structural or shock factor?
(a)	Fall in the level of interest rates		
(b)	Increase in the size of the foreign debt		
(c)	Fall in profits from foreign investment in Australia		
(d)	Downgrading of Australia's international credit rating		
(e)	Reduction in the number of foreign workers who earn incomes in Australia		

3. Describe trends in the primary incomes balance over the last ten years. Identify two factors that have contributed to this trend.

4. Short-term fluctuations in the balance on goods and services are likely to be the result of changes in structural factors. Is this statement true or false? State reasons for your answer.

3.6 RELATIONSHIP BETWEEN THE BALANCE OF PAYMENTS INDICATORS AND OTHER INDICATORS

NET INTERNATIONAL INVESTMENT POSITION	BALANCE OF PAYMENTS	NET INTERNATIONAL INVESTMENT POSITION
Position **at the beginning** of the time period (Stock measure)	Changes **during** the time period (Flow measure)	Position **at the end** of the time period (Stock measure)

CURRENT ACCOUNT OF BALANCE OF PAYMENTS
Goods Services Primary incomes Secondary Incomes

equals

CAPITAL ACCOUNT and ERRORS AND OMISSIONS

plus

NET INTERNATIONAL INVESTMENT POSITION (IIP)	FINANCIAL ACCOUNT OF BALANCE OF PAYMENTS	NET INTERNATIONAL INVESTMENT POSITION (IIP)
Difference between value of foreign assets and foreign liabilities (Debt and Equity)	Direct Portfolio Reserve Derivatives Other	Difference between value of foreign assets and foreign liabilities (Debt and Equity) Allowing for currency movement and asset appreciation
equals	*equals*	*equals*
NET FOREIGN LIABILITIES	**NET CAPITAL FLOW**	**NET FOREIGN LIABILITIES**

equals

INVESTMENT-SAVINGS GAP

Passage of time → → →

Figure 3.2: The relationship between the Net International Investment Position (IIP) and the Financial Account balance on the Balance of Payments Accounts. Adapted from an Australian Bureau of Statistics diagram at www.abs.gov.au.

- The Net International Investment Position (IIP) is a stock measure. A stock is a quantity measured at a particular moment in time. The IIP is the difference between the value of Australia's foreign assets (what we own) and foreign liabilities (what we owe to other people).
- The Balance of Payments (BOP) is a flow measure. A flow is a quantity measured over a given period of time. It shows the difference between financial inflows and outflows between Australia and the rest of the world over a period of time that result from international trade, income and investment. Flows of foreign investment are recorded in the financial account of the Balance of Payments in five sub-sections (Direct. Portfolio, Reserve Bank, Derivatives and Other).
- It follows that the change in value of the International Investment Position (IIP) between the start and the end of a given time period equals the net value of the flows recorded in the financial account of the balance of payments during that time period. For example, if the IIP

at the start of 2021 was $1000b and the IIP was $900b at the start of 2022, the balance on financial account of the balance of payments would be $100b.

- There are other flow measures related to foreign investment including the Net Capital Flow (see the RBA chart pack) and the Investment-Savings Gap which is the difference between the flow of total investment and the flow of savings in the economy over a given period of time. The gap is closed by flows of foreign investment. The investment-savings gap = net capital flow = financial account outcome in the balance of payments (allowing for exchange rate changes and asset revaluation) which, when allowances are made for the capital account balance and errors and omissions, is matched by an equal but opposite current account balance.

1. **What is the significance of this data?**
   - The current account outcome is linked to the level of net foreign investment.
   - When Australia's current account moved into surplus in mid-2019 Australia became a net exporter of capital for the first time in over four decades.
   - The size of the Investment-Savings Gap in the economy is important for determining the demand for foreign investment.
   - The financial account outcome in the balance of payments equals the change in the International Investment Position (IIP) over time.
   - The IIP indicates the level of foreign liabilities. Foreign liabilities include foreign debt and foreign equity. More than 100% of Australia's foreign liabilities are long-term debt liabilities. Australia's foreign equity liability is now negative (i.e. we have net foreign assets) because of the capital growth of overseas investment by superannuation funds.
   - The current account balance and the capital and financial account balance have equal but opposite values by accounting definition. There is no clear causal direction involved. So when Australia records a financial account surplus and a current account deficit it is difficult to tell whether the financial account surplus was caused by or resulted from the current account deficit.

Student Activity 3.5

1. Suppose national saving in Australia is $150b per year and the demand for investment finance (to build capacity in the mining sector, construct houses, build infrastructure and so on) is $200b per year. Suppose also that the gap between saving and investment is financed half by borrowing and half through the purchase of assets.

(a)	What is the size of the investment-savings gap?	
(b)	In which sub-account of the balance of payments is foreign borrowing and purchase of assets recorded?	
(c)	Everything else being equal what will be the size of the capital and financial account balance?	
(d)	What, therefore, will be the size of the current account balance (assuming there is no change in the exchange rate)?	
(e)	Describe three ways an inflow of foreign investment can affect credits or debits in the current account.	

2. Discuss whether the current account outcome is a sign of economic weakness or strength, or has little bearing on the strength of the economy.

SO YOU THINK YOU UNDERSTAND BALANCE OF PAYMENTS	
Key words in definition of balance of payments 1. 2 3 4	**Australia's balance of payments accounts**
Two main sides to accounts 1 2	**Three overall causes of fluctuations in the size of the current account deficit** 1 2 3
Two broad types of financial flow recorded in current account 1 2	**Reasons for the current account surplus** 1 2 3 4
Four sub-sections in current account 1 2 3 4	
Main broad type of financial flow recorded in capital and financial account 1	**Six links between financial account inflows (i.e. foreign investment) and flows in the current account** 1 2 3 4 5 6
Three sub-sections in capital and financial account 1 2 3	
Entries in balance of payments accounts **Inflows** **Outflows**	**Identities**
In all accounts when:	**Is current account surplus a good thing?**
Reasons that the balance of payments accounts balance 1 2	

TEST YOUR KNOWLEDGE

Balance of Payments Multiple-Choice Questions

1. Australia has had a current account surplus recently because:
   (a) National savings were more than the level of investment expenditure.
   (b) Investment expenditure was lower than the level of consumption expenditure.
   (c) The capital and financial account was in surplus.
   (d) The level of aggregate production was lower than the level of aggregate expenditure.

2. Which of the following correctly describes a cyclical factor affecting the balance on goods and services?
   (a) Our growth rate because of its impact on imports into Australia.
   (b) Our growth rate because of its impact on exports from Australia.
   (c) The growth rate of our trading partners because this alters the value of imports into Australia.
   (d) Changes in the terms of trade because this alters the value of exports from Australia.

3. Which one of these structural factors would increase Australia's trade balance?
   (a) An appreciation in the exchange rate
   (b) An increase in multifactor productivity growth
   (c) Additional regulation of the business sector
   (d) An increase in the rate of tax paid by Australian businesses

4. The balance of goods and services is affected by positive and negative shocks. Which of these is most likely to lead to a positive shock to the trade balance?
   (a) A fall in iron ore prices.
   (b) A ban on live sheep and cattle exports
   (c) Instability in the Middle East
   (d) Good rain in agricultural areas

5. Which of the following correctly describe the effect of foreign investment inflows on the current account balance of the balance of payments?
   (I) They increase our capacity to produce and export in the long term.
   (II) They increase the level of capital goods imports in the short run.
   (III) They increase the primary income outflow of dividends and profits .
   (IV) They cause the exchange rate value of the Australian Dollar to appreciate which in turn makes imports cheaper and exports more expensive for overseas consumers.

   (a) Only options I, II and IV are correct.
   (b) Only options I, II and III are correct.
   (c) Only options II, III and IV are correct.
   (d) All are correct.

6. Which of the following is the most accurate description of the Government's balance of payments target?
   (a) Achieve a 1% of GDP trade surplus per year over the life of the cycle
   (b) Achieve a 2% to 3% of GDP trade surplus per year over the life of the cycle
   (c) Achieve a balanced outcome in the current account when GDP growth is at trend level
   (d) The Government does not have a target for any sub-account in the balance of payments

7. Which of the following is an INCORRECT statement?
   (a) Persistent current account deficits cause the level Australia's foreign liabilities to rise.
   (b) Regular financial account surpluses mean the Australia's foreign liabilities fall.
   (c) Rising private sector debt threatens Australia's credit rating by creating a debt trap.
   (d) Increased foreign liabilities makes businesses and governments that rely on debt finance more vulnerable in times of global financial instability.

8. Which of the following is recorded as a credit item in the current account of the Australian balance of payments?
   (a) Australian financial aid to Papua New Guinea
   (b) Payment by an Australian company for freight services provided by a Dutch shipping line
   (c) Dividend payments by an overseas company to Australian shareholders
   (d) The purchase of equities in an Australian company by an overseas company

Questions 9 and 10 refer to the data in the table below which shows the financial flows between a hypothetical economy and the rest of the world over a year.

Goods balance	-$5b	Capital balance	+$2b
Services balance	-$3b	Financial balance	+$45b
Primary incomes balance	-$35b	Errors and omissions	-$2b
Secondary incomes balance	-2b		

9. What is the balance on current account?
   (a) -$5b; (b) -$8b; (c) -$43b; (d) -$45b

10. What is the level of net foreign investment into the economy during the year?
   (a) -$35b; (b) -$43b; (c) - $45b;
   (d) Cannot be calculated from this table

THE TERMS OF TRADE

4

SYLLABUS CHECKPOINTS

- ☐ The concepts of the terms of trade and the terms of trade index
- ☐ Factors that affect the terms of trade, including changes in commodity prices
- ☐ Trends in Australia's terms of trade over the last ten years
- ☐ The effects of changes in Australia's terms of trade

ESSENTIAL GUIDE TO THE TERMS OF TRADE	
1	The terms of trade is the ratio of a country's average export prices and import prices.
2	The terms of trade index is calculated by dividing the export price index by the import price index (and multiplying this by 100).
3	Changes in the export price index are the result of changes in the separate markets for exported products such as mineral and energy commodities, rural commodities, elaborately and simply transformed manufactured goods and services.
4	Changes in the import price index are the result of changes in separate markets for import products such as capital goods, intermediate goods, and consumption goods and services.
5	Commodity prices, and hence the terms of trade more than doubled as a result of the industrialisation of East Asian economies, especially China, during the 2000's. Commodity prices fell back during 2010–15 but had recovered again by 2020. Disruption to food, fuel and energy trade resulting from the invasion of Ukraine increased commodity prices in 2022.
6	The impact of movements in a country's terms of trade depends on the country's level of trade openness and the degree of instability in the prices of its major exports and imports. While the Australian economy is only moderately open to trade by international standards (with a trade openness of about 40%), the prices of many of Australia's major exports (such as mineral, energy and rural commodities) are relatively unstable.
7	Rising export prices boost aggregate demand by increasing export revenue and company profits, which in turn increase wages and investment spending. The resultant injections of spending fuel further multiplier processes in the economy.
8	However, the major impact of a change in the terms of trade is on the level of real incomes. When there is a rise the terms of trade the buying power of income rises because more imports can be purchased with the income received from any given level of exports.
9	There is a strong correlation between Australia's terms of trade and the value of the Australian Dollar. A rise in the Australian Dollar will partially offset the impact on real incomes of a rise in the terms of trade.
10	The rise in incomes associated with a rise in the terms of trade may be tempered further by a rise in the cash rate and automatic fiscal stabilisation.

4.1 DEFINITION AND MEANING

1. What are the terms of trade?

The terms of trade index is a measure of Australia's average export prices divided by the average level of import prices.

$$\text{Terms of trade index} = \frac{\text{Export price index}}{\text{Import price index}} \times 100$$

Note that the terms of trade and the balance of trade are quite different concepts, although a change in the terms of trade is likely to change the balance of trade. The terms of trade index is calculated by dividing average export prices by average import prices whereas the balance of trade is calculated by subtracting import revenue (price x quantity) from export revenue.

2. **How is the export price index and import price index calculated?**
The export price index and import price index are calculated on a trade-weighted basis. The price of a product that makes up a relatively high proportion of Australia's exports (e.g. iron ore) will have a higher weight in the calculation of the export price index than those that make up lower proportion (e.g. milk). Equally products that make up a relatively high proportion of imports (e.g. cars) will have a higher weight in the calculation of the import price index than those that make up lower proportion (e.g. planes).

3. **What terms are used to describe a change in a country's terms of trade?**
- If the terms of trade index increases the change in the terms of trade are said to have improved, even though some parts of the economy may worsen as a result.
- If the terms of trade index falls the change the terms of trade are said to worsen or deteriorate, even though some areas of economy may do well as a result.

4. **So, if Australia's terms of trade are, say, 85.7 what does this mean?**
Assume Australia's export price index is 90 and the import price index is 105. The terms of trade index is, therefore, 85.7 (90/105). This means that compared to the base year (say 2011–12) export prices had fallen by about 10%, import prices had risen by about 5% and overall the terms of trade had fallen by about 14%. The ratio of export prices to import prices was 0.857 to 1.

Student Activity 4.1

1. Write down the formula for calculating the terms of trade index.

_____

_____

2. Complete the following table.

Year	Export price index	Import price index	Terms of trade	Description of change from previous year
1	85	100		-
2	90	100		
3	90	125		
4	95	85		
5	100	105		

3. What does it mean to say the terms of trade are 85?

_____

_____

4. State whether the following statements are correct or incorrect. Be prepared to justify your answer.

	Statement	Correct or incorrect?
(a)	The terms of trade index is the average price of exports divided by the average price of imports multiplied by 100	
(b)	The terms of trade index is the value of exports minus the value of imports	
(c)	The terms of trade index indicates the quantity of exports that can be bought from a given volume of imports	
(d)	The terms of trade index is 'unfavourable' when the index is less than 100 and favourable when it is over 100	
(e)	If the export price index is greater than the import price index the trade balance will be in surplus	
(f)	An improvement in the terms of trade indicates a rise in international competitiveness	
(g)	If export prices rise faster than import prices the terms of trade will improve	
(h)	A rise in the terms of trade index means more exports are needed to buy a given level of imports	

5. What is happening to the terms of trade in the following situations?

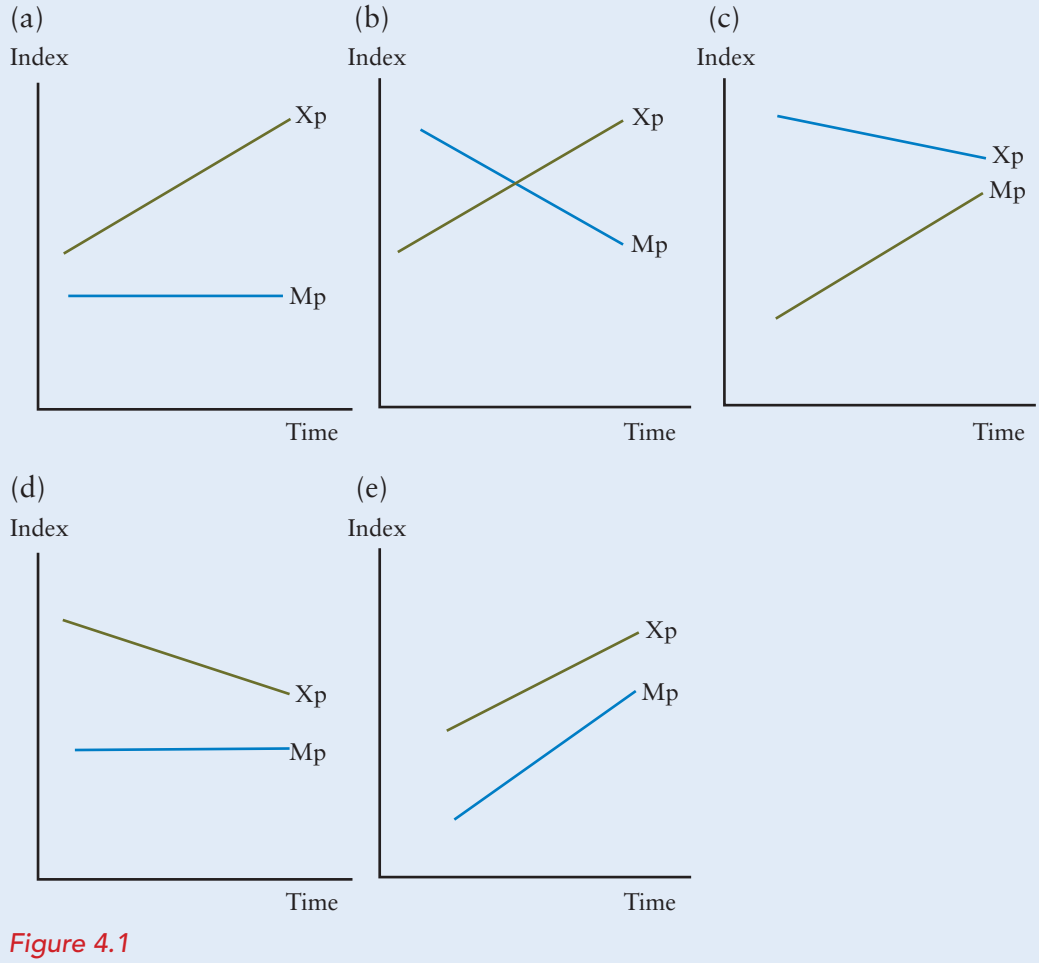


Figure 4.1

4.2 RECENT TRENDS IN AUSTRALIA'S TERMS OF TRADE

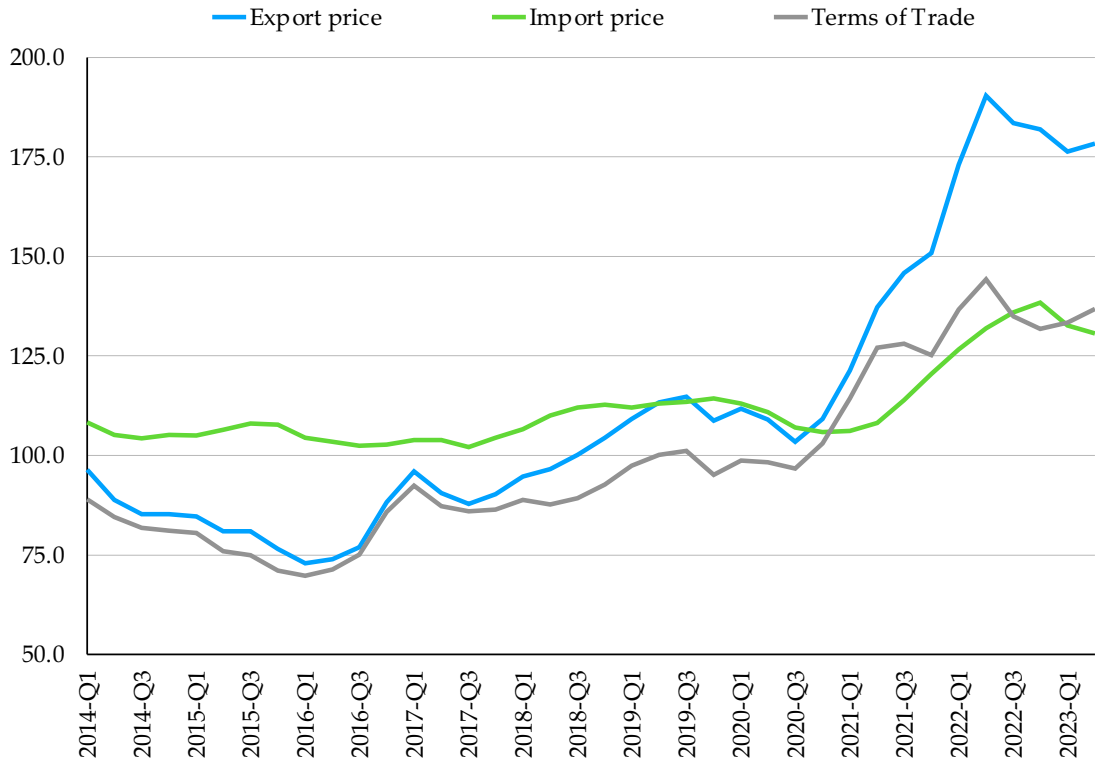


Figure 4.2: Data Source ABS

- Despite the fall in the terms of trade to Sept 2016 it remained at a historically high level.
- Between 2016 and 2019 the terms of trade improved by about 30%.
- Since 2000 the terms of trade have improved further responding to higher commodity prices caused by war in eastern Europe.

Student Activity 4.2

1. Estimate the percentage increase in the terms of trade between Mar 2020 and Sept 2022.

2. Describe the movement of the terms of trade between Mar 2014 and Mar 2016.

4.3 CAUSES OF CHANGES IN THE TERMS OF TRADE

1. What are the three general influences on the terms of trade?

- **Microeconomic changes:** Prices change in individual export and import markets as a result of the interaction of demand and supply in these markets. Recent examples of microeconomic factors affecting specific export prices include (i) changes in level of demand for iron ore from China, (ii) changes in the demand for global travel, (iii) changes in demand for products affected by lockdowns such as coffee, tea and cocoa and (iv) shortages of supply of intermediate goods leading to higher prices being passed down supply chains.
- **Macroeconomic changes:** The price level in an economy is affected by changes in the levels of aggregate demand and aggregate supply. Differences in inflation rates between countries affects the prices of exports and imports.
- **Exchange rate movements:** Movements in a country's exchange rate have a direct effect on the prices of imports and the price of exports priced in foreign currencies, such as US Dollars. A depreciation of the Australian Dollar makes imports more expensive and also raises the Australian Dollar price of exports traded in US Dollars.

These three factors are clearly linked. A rise in the price of commodities, given their price inelasticity, will affect planned investment and net exports, which, in turn, increases aggregate demand and leads to an appreciation of the exchange rate.

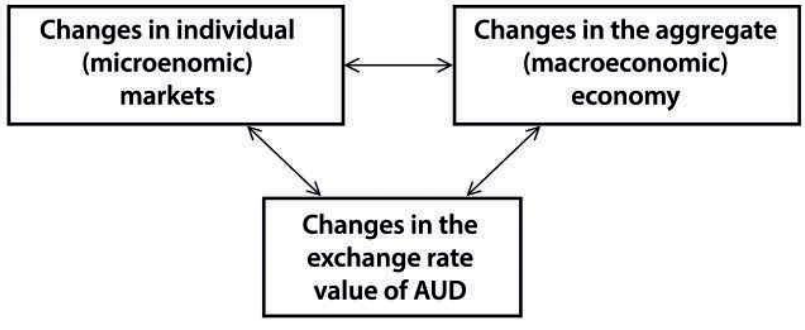


Figure 4.3

2. Are export prices more volatile than import prices?

Figure 4.2 above shows that export prices have been more volatile than import prices over the last five years or so. Export prices change more than import prices because the composition of exports differs from the composition of imports. Exports are dominated by mineral, energy and rural commodities which have relatively unstable prices and imports are dominated by capital, intermediate and final manufactured goods which have relatively stable prices.

Export category	Importance	Degree of stability	Comment
Resources	65% Relatively High	Relatively unstable	Demand derived from global growth. Production problems can affect supply.
Rural	12% Relatively Low	Moderately unstable	Unpredictable supply and supply time lags lead to 'corn-hog' cycles or cobwebs.
Services	13% Relatively Low	Relatively stable	Falling travel costs. Demand affected by overseas growth and travel regulations.
Manufacturing	8% Relatively Low	Relatively stable	Long-term downward trend due to globalisation and automation.

Import category	Importance	Degree of stability	Comment
Intermediate goods	33% Moderate	Relatively stable	Part-made goods used in supply chains.
Consumption goods	32% Moderate	Relatively stable	Long-term falling trend due to globalisation and automation.
Services	13% Relatively Low	Relatively stable	Exchange rate impacts on AUD price of service imports.
Capital goods	21% Relatively Low	Relatively stable	Long-term downward trend due to globalisation and automation.

3. **What specific factors impacted on Australia's terms of trade in the last ten years?**
   1. **Changes in commodity prices:**
      Australia's terms of trade mirror changes in commodity prices because of the importance of commodity exports in Australia's composition of trade. In turn, commodity prices are affected by:
      - Changes in demand caused by changes growth rates in China, India and other South-East Asian nations.
      - Inelastic supply because there are long time lags before producers can adjust the level of output.
   2. **Increased supply of cheap consumer goods:**
      Economic growth in China and other east-Asian economies is driven by the production of relatively cheap, mass-produced, manufactured goods (such as toys, clothes, electrical goods and cars). Technological developments continue to keep the prices of many consumption products at low levels.
   3. **Globalisation:**
      New technologies have enabled some Australian producers to participate in global value chains (e.g. producing aircraft parts) and/or become competitive producers of niche manufactured products (e.g. medical equipment).
   4. **Consumers moving up-market:**
      Higher real incomes in Asia has led to increased demand for higher protein food and has allowed Australian rural producers to increase exports (e.g. of beef and dairy products). At the same time higher incomes in Australia allow Australian households to move up-market and buy more expensive imported goods.

4.4 THE LIKELY FUTURE DIRECTION FOR AUSTRALIA'S TERMS OF TRADE

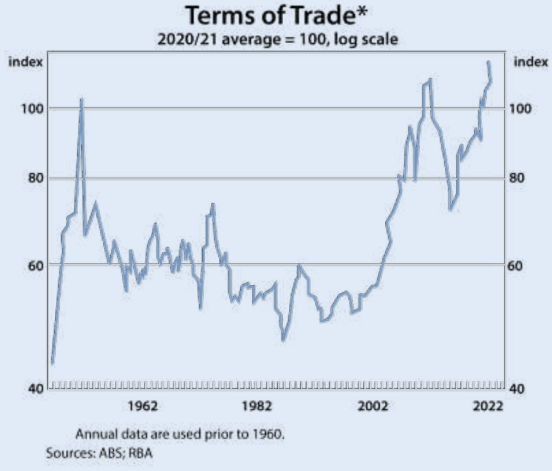
The Reserve Bank finds it difficult to forecast the terms of trade. Given the importance of the terms of trade for Australia's economic performance this is a problem. Forecasting is difficult because commodity markets, and hence the terms of trade, are hyper-responsive to cyclical and speculative factors and this price sensitivity reduces the accuracy of models that have been developed to predict future price levels. It is not that commodity prices follow 'a random walk', but that the occurrence and strength of factors known to affect commodity markets can't be accurately anticipated and modelled. In the past the RBA has tended to:

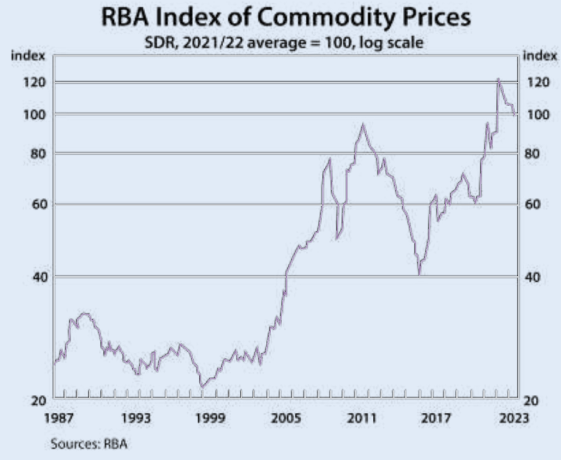
- Underestimate the terms of trade during global upswings, with demand for commodities growing more than expected and new supply coming to the market slower than expected
- Overestimate the extent of falls in the terms of trade during downswings as commodity markets deteriorate.

The RBA is predicting a fall in the terms of trade during 2023–24 as demand falls after the highs of the post-pandemic recovery and supply increases as disruptions to additional supplies of food, fuel and energy are sourced.

Student Activity 4.3

1. Using the charts below compare the movements in the Terms of Trade with the movements in the RBA Index of Commodity Prices. Note the differences in the horizontal scale when making your comparison. Discuss the pattern of causality or cause and effect between the terms of trade and commodity prices.





Figs 4.4 and 4.5: Source RBA Chart Pack

2. Using a demand and supply diagram, show why slower growth in China and an increase in supply from iron ore producers would cause the price of iron ore to fall.

3. (a) Using an aggregate demand and aggregate supply diagram, show the likely impact of a depreciation in the value of the Australian Dollar on the price level in Australia.

(b) Explain the connection between a fall in the exchange rate, a rise in the price of imports and a worsening of Australia's terms of trade.

4. Describe, quoting specific examples, three factors that have caused changes in Australia's import price index in the last 10 years.

5. List three factors you would need to know before you could predict future trends in Australia's terms of trade.

4.5 THE EFFECT OF CHANGES IN THE TERMS OF TRADE

1. Why are changes in the terms of trade important?

- Australia's terms of trade are relatively unstable. This instability is generated by movements in the market prices of the goods and services Australia exports and imports and is, therefore, connected with the composition of trade.
- Australia has a moderately open economy (about 40%) so changes in the prices and values of Australia's exports and imports do effect growth, employment and incomes.
- Changes in the terms of trade lead directly to changes in real incomes and indirectly, through their impact on exchange rates and the balance of trade, to the level of economic activity.

2. How might a change in Chinese growth affect the terms of trade and aggregate demand?

The flow chart below illustrates how growth in China (or other East Asian economies) affects commodity prices and the terms of trade, and the impact the change in terms of trade has on real incomes, profits, wages, share values and government revenue and, as a result, on aggregate demand.

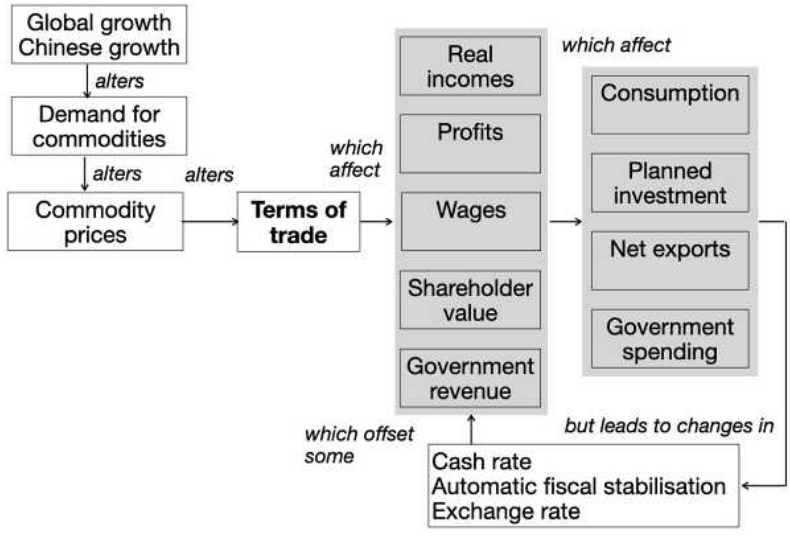


Figure 4.6: Based on a diagram at www.rba.gov.au

The rise in the terms of trade changes all the components of aggregate demand:
(a) consumption, through a change in nominal wages and real incomes,
(b) planned investment, because of changes in the rate of return on investment,
(c) net exports, due to changes in export prices and
(d) Government spending, caused by a changes in government revenue.

The impact of the changes in commodity prices, the terms of trade, income and aggregate demand may be, however, partially offset by (a) changes in the exchange rate and in cash rates and through automatic fiscal stabilisation.

3. How do changes in the terms of trade affect national income?

- National income is a measure of the real income or purchasing power of incomes received by Australians over a period of time regardless of where the economic activity that generated the income took place.
- The terms of trade influence the level of imports that can be purchased with the revenue gained from the sale of any given volume of exports. Indeed, if all Australian output was exported (as opposed to the actual level of about 20%), and the revenue raised from these exports was used to buy imports, the country's real income would be entirely determined by the terms of trade.
- When the terms of trade are stable the level of national income and GDP (or output) are the same, but when the terms of trade change these measures part company.
- A change in the terms of trade represents a transfer of income from one country to another. When the terms of trade rise for one country there must be a corresponding fall in the terms of trade somewhere else. During the mining investment boom (2002–12) Australia benefitted from rising terms of trade that boosted incomes more than output. Our gain was China's loss. China was paying ever-higher commodity prices and receiving lower prices for their exported consumer goods. This meant that their incomes rose at a slower rate than Chinese GDP. As commodity prices moderated after between 2010 and 2015 the situation was reversed.

The direct change in incomes, and the indirect change in GDP growth, causes a change in material living standards. For example, if the terms of trade fall, consumers can afford fewer imported cars and electrical goods. There will also be a fall in tax revenue for the government and this will reduce the level of government spending on public and merit goods and social security.

4. How do changes in the terms of trade affect the balance of trade?

The affect of a change in export and/or import prices on the balance of trade depends on the reaction of consumers to the price movements causing the change in the terms of trade. Price elasticity of demand for exports (PED-exports) is a measure of the responsiveness of demand for exports following a change in price of exported products.

$$\text{PED-exports} = \frac{\text{Percentage change in quantity of exports demanded}}{\text{Percentage change in price of exported products}}$$

Similarly, price elasticity of demand for imports (PED-imports) is a measure of the responsiveness of demand for imports following a change in price of imported products.

$$\text{PED-imports} = \frac{\text{Percentage change in quantity of imports demanded}}{\text{Percentage change in price of imported products}}$$

The overall impact on the balance of trade depends on the composition of trade and whether prices are rising or falling. If export prices are rising and demand is price inelastic (e.g. mineral and rural commodity exports), export revenue will increase. However, if export prices rise and demand is price elastic (e.g. manufactured goods and services), export revenue will fall.

If import prices are rising and demand is price inelastic (e.g. capital goods), this will raise import payments. However, if import prices rise and demand is price elastic (e.g. consumption goods and services), this will reduce import payments. Given the composition of Australia's trade, a rise in the terms of trade tends to lead to a rise in the balance of trade and a fall in the terms of trade leads to a fall in the balance of trade.

5. **How do changes in the terms of trade affect the exchange rate?**
There is a close correlation between the commodity prices, the terms of trade and the exchange rate. Commodity prices are the major determinant of the terms of trade and both are important in influencing the exchange rate.

4.6 MODELLING THE EFFECT OF A CHANGE IN THE TERMS OF TRADE

1. Microeconomic demand and supply diagrams can be used to show the changes in consumer surplus and producer surplus caused by changes in export and import prices. In the left hand diagram the rise in the global price of iron ore (e.g. because of a rise in demand) increases the producer surplus of Australia's iron ore producers. Income is increased and company tax and royalty payments rise. In the right hand diagram the price of imported electrical goods has fallen (e.g. because of a fall in the exchange rate) and this increases the consumer surplus of Australian households.

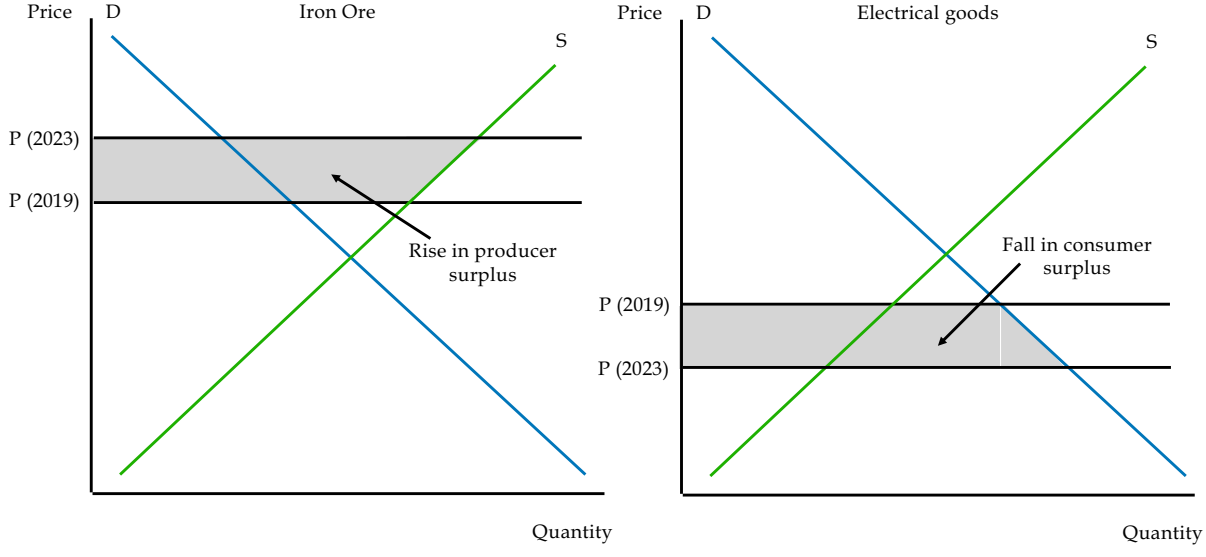


Figure 4.7

2. Also, production possibility and consumption possibility diagrams can be drawn to show the impact of a change in the terms of trade. The PPF shows the Australian production possibility frontier for iron ore and electrical goods. In 2023 the rise in the terms of trade meant a boat load of iron could be traded for more electrical goods than was the case in 2019 and hence the consumption possibility frontier (CPF) shifted outwards.

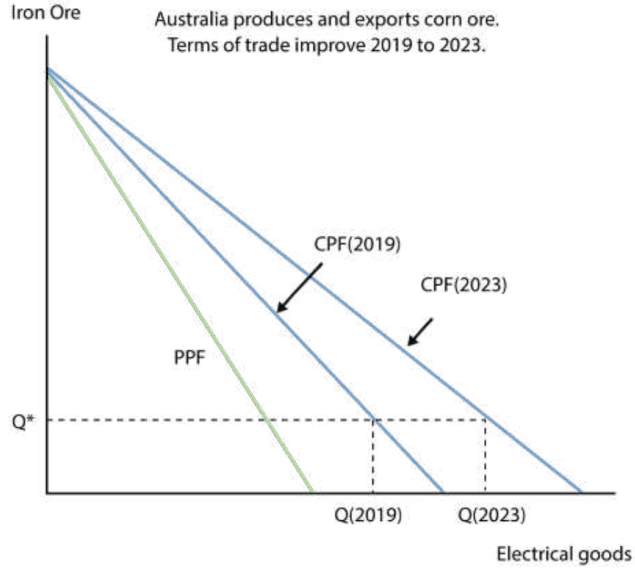


Figure 4.8

Student Activity 4.4

1. The table shows the prices of iron ore and TVs in an economy. Iron ore is exported and TVs are imported.

   (a) Complete the table below.

Year	Price of iron ore (per tonne)	Price of each TV	How many TVs can be bought with the money earned from exporting 100 tonnes of iron ore?	How much iron has to be exported to raise enough money to buy 6 TVs?
1	$120	$2000		
2	$60	$2000		

   (b) What has happened to the terms of trade between Year 1 and Year 2?

   _____

   _____

   (c) What has happened to the living standards of people in the economy?

   _____

   _____

2. Read the following text and attempt the questions that follow.
   A change in the terms of trade represents a transfer of income from one country to another. When the terms of trade rise for one country there must be a corresponding fall in the terms of trade somewhere else. During the mining investment boom Australia benefitted from rising terms of trade as incomes rose faster than the rate of growth of production. Our gain was China's loss. China was paying ever-higher commodity prices and receiving lower prices for their exported consumer goods. This meant that their incomes rose at a slower rate than Chinese GDP. After the mining investment boom Australia enjoyed a production and export boom but the terms of trade worsened.

   (a) Why did income in Australia grow at a faster rate than GDP during the mining boom?

   _____

   _____

   (b) Why did China's terms of trade fall during their period of industrialisation when they were importing commodities and exporting manufactured goods?

   _____

   _____

3. Australia's terms of trade increased sharply during the pandemic and because of Russia's invasion of Ukraine. This was caused a combination of strong demand and disrupted supply. Demand for energy and food, key export commodities for Australia, rose as importers looked to substitute away from Russian exports and, as a result the prices for several of these commodities rose sharply. The surge in export prices was expected to be short-lived as a result of a developing global recession and a slowdown in growth in China, although LNG prices were expected to be relatively high for some time. Accordingly, this terms of trade episode is expected to have a limited impact on the real economy and it is unlikely that firms will undertake many new mining projects in Australia. However, government and corporate revenues will be boosted substantially by the higher export prices.

(a) Why did Australia experience a terms of trade spike during the early 2020's?

(b) Describe three ways Australian's benefitted in the short term from the increased terms of trade.

(c) Identify and describe three factors that could impact on Australia's terms of trade over the next 5 years or so.

SO YOU THINK YOU UNDERSTAND TERMS OF TRADE	
Formula for calculation of terms of trade	**Impact on real income**
Meaning of terms of trade	**Impact on GDP**
Why TOT are more significant for open (trade intensive) economies	**Impact on structural change**
Not the same as the balance of trade	**Impact on inflation**
Terms to describe changes	**Impact on balance of trade**
Trends in Australia's terms of trade	**Showing impact using consumer and producer surplus models**
Three main factors affecting TOT 1 2 3	**Showing impact using production possibility frontier models**
Five factors affecting export and import prices 1 2 3 4 5	

TEST YOUR KNOWLEDGE

Terms of Trade Multiple-Choice Questions

1. During a year, the export price index in an economy fell from 120 to 105 and the import price index rose from 80 to 84. What has happened to the terms of trade during the year?
   (a) Fell from +15 to -4
   (b) Rose from 66.67 to 80
   (c) Fell from 150 to 125
   (d) Fell from 114.3 to 95.2

2. The table shows the export price index and import price index for a hypothetical economy.

	Export price index	Import price index
Year 1	100	100
Year 2	115	110
Year 3	102	108

   Which of the following statements is correct for this economy?
   (a) In Year 2, import prices increased at a faster rate than export prices
   (b) The value of exports was lower in Year 3 than the value of exports in Year 2
   (c) In Year 3, a given quantity of exports will buy a smaller quantity of imports than in Year 2
   (d) In Year 2, the value of exports from this economy decreased from the level in Year 1

3. Which of the following is true if there is a fall in the terms of trade in an economy?
   (a) More products have to be imported to pay for a given level of exports
   (b) Fewer imports can be purchased with the revenue received from a given level of exports
   (c) Fewer exports are needed to pay for a given level of imports
   (d) The value of the export price index will fall below the value of the import price index

4. Which of the following is a possible explanation of the shift in Australia's current account balance from a deficit to a surplus?
   (a) A high level of Australia's terms of trade.
   (b) A rise in national savings relative to national investment.
   (c) An increase in the volume of mineral and energy exports.
   (d) A fall in the level of consumer confidence in Australia.

5. What is the main consequence of a fall in Australia's terms of trade?
   (a) An appreciation of the Australian dollar.
   (b) A widening of the current account deficit.
   (c) Stronger economic growth in Australia.
   (d) An improvement in national economic welfare.

6. What is the most likely cause of an improvement in Australia's terms of trade?
   (a) A fall in the value of the Australian dollar.
   (b) A rise in national income.
   (c) An increase in the capital and financial account surplus.
   (d) An increase in the price of iron ore and LNG.

7. If Australia experienced a rise in its terms of trade, which of the following (other things being equal) would be most likely to occur?
   (I) A rise in the size of the capital and financial account surplus.
   (II) A reduction in the size of the current account deficit.
   (III) A fall in the Australian dollar.
   (IV) A rise in Australian living standards.

   (a) II and III; (b) I, III and IV; (c) I and IV;
   (d) II and IV

8. Which of the following contributed most to the rise in Australia's terms of trade in 2022–23.
   (a) A depreciation in the exchange rate value of the Australian Dollar.
   (b) A rise in the cost of manufacturing electrical and computing goods in China.
   (c) A rise in commodity prices as a result of disruptions to world trade.
   (d) An increase in the value of dairy products sold to China due to a rise in incomes in China.

9. A slowdown in Chinese growth rates will most likely lead to:
   (a) Australia's terms of trade deteriorating, and the trade surplus falling.
   (b) Australia's terms of trade deteriorating, and the trade surplus rising.
   (c) Australia's terms of trade improving, and the trade surplus falling.
   (d) Australia's terms of trade improving, and the trade surplus rising.

10. A rise in a country's terms of trade raises the standard of living in the economy by:
   (a) Increasing the volume of imports that can be obtained from a given volume of exports
   (b) Creating an excess of exports over imports.
   (c) Decreasing the exchange rate value of the Australian dollar.
   (d) Increasing the foreign debt.

EXCHANGE RATES

5

SYLLABUS CHECKPOINTS

- ☐ The concept of an exchange rate including Australia's exchange rate.
- ☐ The concept of the trade weighted index.
- ☐ The relationship between the balance of payments and the exchange rate.
- ☐ The determination of, and movements in, the exchange rate using the demand and supply model.
- ☐ Factors that affect the exchange rate
- ☐ Effects of movements in the exchange rate.
- ☐ Trends in Australia's exchange rate over the last ten years.

ESSENTIAL GUIDE TO EXCHANGE RATES	
1	The exchange rate of a currency is its value expressed in terms of one or more other currencies. When the value of a currency rises it is said to appreciate and when its value falls it is said to depreciate.
2	In a freely floating exchange rate regime, the value of the currency is determined by the demand and supply for the currency in a deregulated foreign exchange market. Demand is linked to credit entries in the balance of payments associated with trade, income and investment flows and supply is linked to equivalent debit entries.
3	While the government and/or their central bank may choose to let the market set the rate without any intervention, they may attempt to change the level of demand and supply for the currency by buying or selling foreign currencies directly in foreign exchange markets, or indirectly by, for example, changing interest rates, changing the money supply or simply talking about a preferred exchange rate level.
4	There are four inter-related medium term factors that affect the exchange rate value of the Australian Dollar; (a) commodity prices and the terms of trade; (b) interest rate relativities between countries; (c) the performance of the economy and (d) the overall risk environment. The rate is also affected by movements in other currencies.
5	Purchasing power parity theory (PPP) suggests that, in the very long run, exchange rates are influenced by the price level in Australia and in other countries and move in a way that creates price parity between the two.
6	In the short run, exchange rates change as a result of sequences of fairly random reactions by speculators.
7	The impact of a change in the exchange rate varies from sector to sector and depends on (a) the level of international trade in each sector, (b) whether products are priced in Australian dollars or US dollars, (c) the level of competition in the sectors and (d) the importance of imported inputs (such as capital goods).
8	The impact of a change in the exchange rate on the balance of trade depends on the sum of the price elasticity of demand for exports and the price elasticity of demand for imports. If their sum adds up to more than 1, a depreciation in the Australian dollar will narrow a trade deficit and an appreciation in the Australian dollar will widen a trade deficit. The actual level of price elasticity is determined by the composition of exports and imports and the time period over which it is measured.
9	A depreciation in the exchange rate increases the value of Australia's foreign debt and tends to increase growth, employment and inflation.
10	In trade weighted terms the Australian Dollar reached a peak in 2012. It then depreciated by about 25% to 2020 despite a brief rally around 2016–17. After the pandemic the dollar has appreciated by about 15% in line with a recovery in commodity prices.

5.1 THE CONCEPT OF AN EXCHANGE RATE

1. What is an exchange rate?

The value of a country's currency is called its exchange rate. The exchange rate is the rate at which one currency can be exchanged for another currency.

2. How is the value of a currency measured?

The value of a currency can be expressed in two main ways.

- **In terms of one other currency:** The value of the Australian Dollar (AUD) can be expressed bilaterally, in terms of its value in one other currency such as the US Dollar (USD), Japanese Yen (JPY) or the Euro (EUR). Note that the value of a currency can be expressed by quoting the international or domestic value of the currency.
  - o **International value:** How much of another currency is equal in value to one Australian Dollar (e.g. AUD1 = USD0.80)
  - o **Domestic value:** How many Australian Dollars are equal in value to one unit of the international currency (e.g. AUD1.25 = USD1).
- **In trade-weighted terms:** The Trade Weighted Index (TWI) is a multilateral exchange rate based on a calculation of the weighted geometric mean value of the Australian dollar in relation to the currencies of Australia's bigger trading partners. The base year for the TWI is May 1970. Each currency is given a weight based on the composition of Australia's merchandise goods and services trade in the previous financial year. The weights, therefore, change from year to year. The index includes the currencies of countries that make up the first 90% of Australia's trade, and this also may change from year to year.

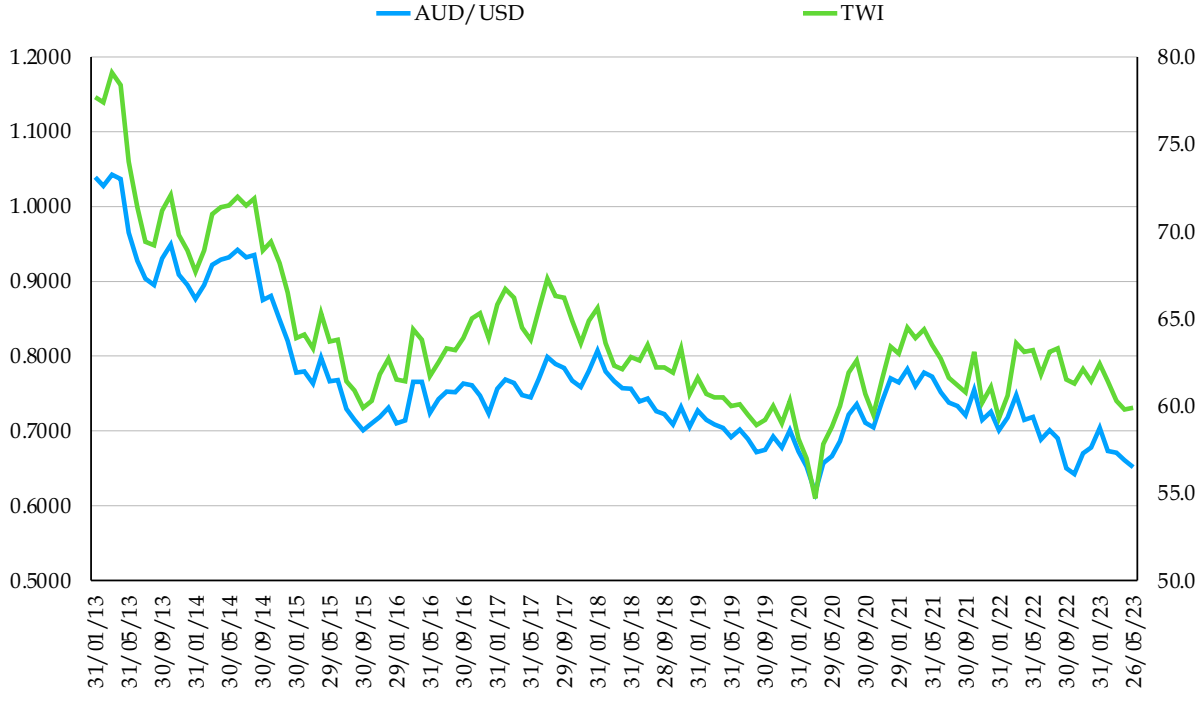


Figure 5.1: Data Source RBA

3. What is a Purchasing Power Parity (PPP) exchange rate?

The Purchasing Power Parity exchange rate between the Australian Dollar and Euro, for example, is the exchange rate that gives the same purchasing power in Australia and in the Euro Zone. For example, if someone can buy 30 Big Macs in Perth with 100 AUDs, or having converted the 100 AUDs into Euro, can buy 30 Big Macs in Paris, the exchange rate used to convert AUD to Euros would have been at its purchasing power parity or PPP rate. People can't go to a currency trader and ask for foreign currency at the PPP rate, but the concept is useful:

- As a theory about the long term effect of inflation on exchange rate values.
- As a way of making international comparisons of value, such as comparing the size of the US and Chinese economies.

4. **What terms are used to describe changes in the value of a currency?**
   - **Appreciation:** A rise in the exchange rate value of a floating or market based currency is a currency appreciation. For example, a rise in the value of the AUD 1 from USD 0.50 to USD 1 would be an appreciation of the currency.
   - **Depreciation:** A fall in the exchange value of a floating or market based currency is a currency depreciation. For example, a fall in Australia's trade weighted index from 75 to 65 would be a depreciation of the currency.

   NOTE: If the value of a currency is controlled by a Central Bank (such as in China and Singapore) a rise in the value of the currency is known as a revaluation and a fall in the value of the currency is known as devaluation.

5. **What is the difference between a nominal and a real exchange rate?**
   The nominal TWI states the value of the Australian dollar in terms of the weighted average value of the currencies of about 20 other countries or regions. The real exchange rate, on the other hand, is the nominal exchange rate adjusted for differences in the price level in each country.

$$\text{Real exchange rate} = \text{Nominal exchange rate} \times \frac{\text{Domestic price level}}{\text{Foreign country price level}}$$

   Statistically, it is a challenge to calculate the average price level of 20 different countries so, leaving that to the experts, a simple one-product, one-country example will be used to show the difference between real and nominal exchange rates. Assume that:
   - The cost of bottle of wine in Australia = AUD 20
   - The cost of bottle of wine of similar quality in Germany = EUR 15
   - The nominal exchange rate between Australian Dollars and Euro is AUD 1 = EUR 0.8

   To calculate the real exchange rate the cost of Australian wine has to be compared to the cost of German wine (in the same currency):
   - Cost of Australian wine in Germany in Euro = 20 × 0.8 = EUR 16
   - The cost of bottle of similar quality wine in Europe = EUR 15

   So with EUR 16 a consumer could, in theory, buy 1.067 bottles of German wine (=16/15). Applying the formula, the real exchange rate is: 0.8 (the nominal exchange rate) × 20 (the Australian price in AUD) / 15 (the German price in Euro) = 1.067.

   In this example the real exchange rate is higher than the nominal rate. The TWI chart shows that the real TWI of the Australian Dollar has indeed been above the nominal TWI for most of the last ten years during the mining investment boom and when other countries have been trying to reduce the value of their currencies by quantitative easing, record low interest rates and currency management. Overseas goods purchased on-line appeared to be relatively cheap (and not only because at that time GST could be avoided on purchases lower than $1000) as did spending money overseas when visiting other countries.

   As noted earlier in this chapter, when a given amount of money in one currency doesn't buy the same quantity of products in other countries when converted into their currencies, exchanges rates are not at the Purchasing Power Parity (PPP) rate. So the ratio of domestic prices to foreign prices is not 1, the real and nominal exchange rates are not at the same level and the currency is not at its PPP rate.

Student Activity 5.1

1. Define the term 'exchange rate'.

2. (a) What are the two main ways of expressing the exchange rate value of the Australian dollar?

   (b) Using the data in figure 5.1 state (i) the range of values for the AUD/USD exchange rate and the TWI and (ii) comment on the correlation or link between the two.

3. Complete the table.

(a)	Assume AUD 1 = USD 0.90. What is the AUD price of a car imported from the United States selling in the US for USD 20,000?	
(b)	Assume USD 1 = AUD 1.33. What is the international value of AUD 1?	
(c)	In Year 1 USD 1 = AUD 0.80. In Year 2 USD 1 = AUD 0.70. Has the AUD appreciated or depreciated?	
(d)	In Year 1 when USD 1 = AUD 0.80 what does a book priced at USD 100 cost in Australia?	
(e)	In Year 2 when USD 1 = AUD 0.70 what does the USD 100 book cost now?	

4. Suppose, as a result of an increase in value of the US dollar, the Australian Dollar fell in value from USD0.75 to USD0.65. What terms best describes the movement of the Australian Dollar?

5. Which of the following is true if a consumer can buy more with AUD100 in Perth than in Singapore at current exchange rates.
   (a) The exchange rate between the Australian and Singapore Dollars is not at the Purchasing Power Parity rate.
   (b) The real and nominal exchange rate between the Australian and Singapore Dollar are the same.
   (c) When currency is traded at Perth International Airport the forex dealers will use the trade-weighted index of the Australian Dollar.

5.2 WHAT IS A FLOATING EXCHANGE RATE?

- The Australia Dollar is a floating currency. The value of the currency is determined by the demand for and supply of the currency on the foreign exchange market. The float was introduced in December 1983, although some flexibility in the value of the dollar had been allowed before then.
- The foreign exchange market operates like other microeconomic markets with an equilibrium price being established where demand equals supply. When there is a shift in supply and/or demand the market automatically adjusts to a new equilibrium price. The market is constantly on the move as people buy or sell currencies to finance foreign trade, incomes and investment.
- Essentially all credit entries in the balance of payments generate demand for the AUD. These credit entries could be, for example, exports of goods or services, income inflows or foreign investment inflows.
- Equally, all debit entries in the balance of payments generate supply for the AUD. These debit entries could include, for example, imports of goods or services, income outflows or foreign investment outflows.

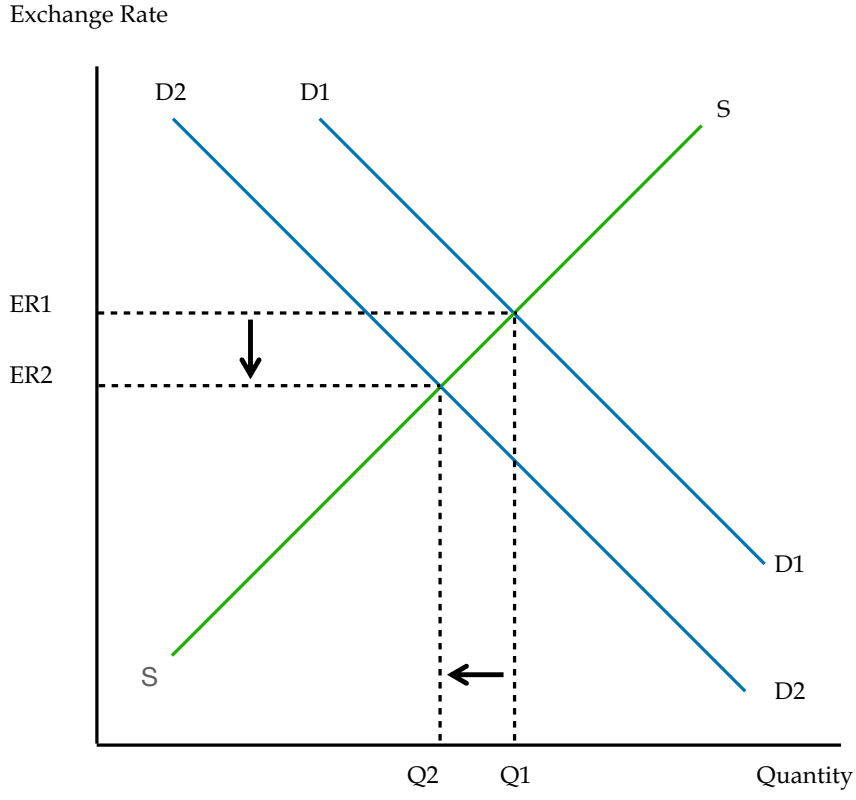


Figure 5.2: Fall in the exchange rate following a decrease in demand

- Floating exchange rates mean policy measures, such as the cash rate, can be set for domestic conditions rather than for the defence of the value of the currency.
- The Reserve Bank does not attempt to manage the supply and demand for the currency in order to control its value. Some countries have tried to improve their international competitiveness by driving down the value of their currencies using unorthodox monetary policy measures such as negative interest rates and expanding their money supply.

Student Activity 5.2

1. Use the diagrams below to show what will happen to the value of the AUD, other things being equal, when (a) there is a rise in interest rates in Australia and (b) A fall in level of foreign investment in the Australian mining sector. (c) Label the vertical axis on both diagrams.

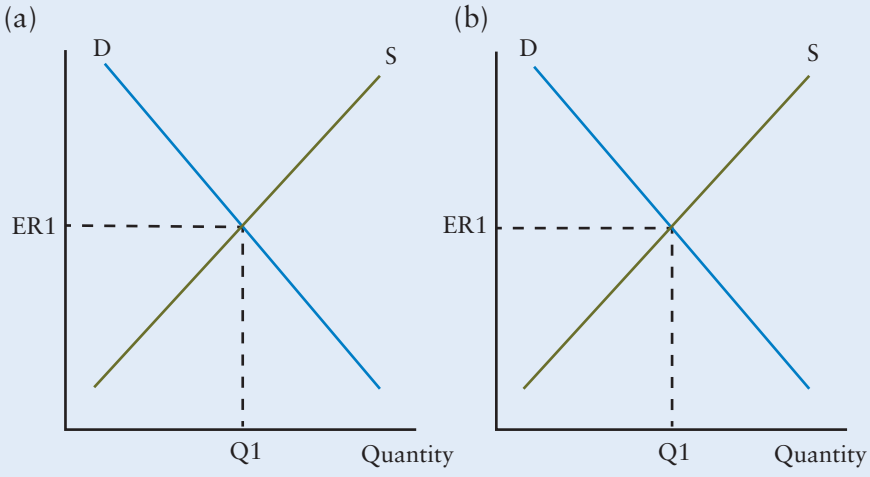


Figure 5.3

2. Complete the following table by (a) stating whether credit or debit entries in the balance of payments lead to changes in the demand or supply of the AUD (top row) and by (b) listing four reasons why people demand and supply Australian dollars (next four rows).

Demand for the AUD comes from _____ entries in the balance of payments accounts	Supply of the AUD comes from _____ entries in the balance of payments accounts

3. If the Reserve Bank wished to reduce (or depreciate) the value of the Australian Dollar what could they do?

Policy measure	What they could do?	Likely effect
Cash rate target	Rise or fall?	
Foreign currency reserves	Sell or buy?	
Domestic money supply	Print more or reduce?	
Inflows of foreign investment	Toughen or ease conditions?	
Jawbone/Talking about the currency	Talk it up or talk it down?	

4. List and briefly explain four problems the RBA would face if it wanted to control the value of the Australian Dollar.

5.3 WHAT FACTORS AFFECT THE EXCHANGE RATE?

1. **Short-term factors**
In the short-run exchange rates can change as traders react to new data and events. A chain of similar random decisions (something known in statistics as a random walk) can lead to noticeable changes in currency markets.

2. **Medium-term factors**
Over the medium term, the value of the Australian Dollar is influenced by four key factors. The relative importance of these factors changes over time.

Factor 1: Movements in commodity prices and the Terms of Trade
The Australian Dollar is said to be a commodity currency, i.e. one whose value is influenced by changes in key mineral and energy commodity prices. Commodities, such as iron ore and coal, are Australia's biggest export products. A significant change in the prices of commodities, such as occurred after the Russian invasion of Ukraine, contributes to a change in Australia's terms of trade and net exports, altering the demand and supply for the currency.

Factor 2: Movements in relative interest rates
- Foreign investment flows can be influenced by the difference in interest rates available different countries. For example, a relatively high rate will attract foreign investment, create demand for the currency and, other things being equal, cause the currency to appreciate.
- Interest rates in the United States were increased by the Federal Reserve at a faster rate than the Reserve Bank increased its cash rate target. As a result foreign investors moved more of their money into US Dollars than into Australian Dollars.

Factor 3: Changes in the risk environment
Geopolitical tension and disputes, such as the battle for global economic and political supremacy between China and the US, territorial disputes between China and Japan and increased Russian influence in Eastern Europe, also affect foreign investment flows. Heightened tension makes so-called 'safe-haven' currencies more attractive than riskier currencies. The Australian dollar, because of its link to commodity prices, is considered a moderately risky currency.

Factor 4: Changes in actual and expected economic performance.
The value of the Australian Dollar is also influenced changes in economic performance.
- **The outlook for global growth:** When global growth forecasts are revised down the Australian dollar tends to lose value relative to the US dollar. Generally, a period of higher global growth leads to an appreciation of the Australian Dollar.
- **Australian economic performance:** The Australian Dollar responds positively to good news about the Australian economy and vice versa. So, for example, the dollar weakened during 2021 under the threat of a double-dip recession caused the government's 'hermit economy' strategy, the low vaccination rate, the wind-down of some stimulus measures and supply-chain problems.
- **Movements in Asian economies and in their currencies and in the US dollar:** Almost three-quarters of Australia's exports go to Asia, and the Australian Dollar is often used as a proxy for Asian currencies. If Asian currencies are, in general, under

downward pressure, so too is the AUD/USD exchange rate. When China's economy was growing strongly a few years ago, it was buying up Australian resources in order to build and develop. This increased commodity prices and the exchange rate appreciated. But conversely, when growth rates in China and the rest of Asia slowed, the appeal of the Australian dollar diminished.

3. **Long-term factors**
In the very long run exchange rates may be influenced by relative price levels between Australia and other countries. In theory, based on the Law of One Price, currencies move in a way that creates price parity. This is called purchasing power parity theory (PPP). However,
- All products are not tradable (a Big Mac in Auckland can't be exported to Perth)
- There are barriers to trade, such as tariffs and transport costs.
- There are information gaps (consumers don't know the price of Big Macs in other countries).
- Products are not homogenous (not even all Big Macs are the same – try one in Delhi).
- Local taxes and business costs (such as rents) distort prices.
- Firms practice price discrimination (they charge higher prices in countries where demand is relatively price inelastic).

4. **Has the Australian Dollar always been a floating currency?**
The Australian Dollar has been a floating or market based currency since December 1983. It was previously pegged in value to the value of the US Dollar. The exchange rate, however, does not always float to a level the Reserve Bank thinks is justified by economic fundamentals such as commodity prices, productivity and unemployment rates. As a result of speculation, floating rates may lead to under-valued or over-valued exchange rates for periods of time. The value of a currency is affected by general and specific factors, so the Australian dollar does not appreciate and depreciate against all countries by the same amount.

Student Activity 5.3

1. Briefly describe four medium term influences on the value of the Australian dollar.

_____

_____

2. If a coin is tossed 10 times the final outcome will not always be 5 'heads' and 5 'tails' because the outcome of each toss is random. Explain why this is relevant to explaining short-term movements in exchange rates.

_____

_____

3. What is the Law of One Price? If this law is valid between countries as well as within countries, explain why cumulative inflation rates could influence a country's exchange rate over time.

_____

_____

_____

_____

4. Everything else being equal, assuming dealers in foreign markets behave in a predicable way, what will be the likely impact of the following on the value of the Australian dollar?

	Event	Impact on the Australian dollar
(a)	Fall in the rate of growth in China	
(b)	50% fall in the price of oil	
(c)	Fall in Australia's terms of trade	
(d)	Stronger growth in the US economy	
(e)	Expectations of a rise in US interest rates	
(f)	Economists suggest next cash rate move in Australia will be in a downward direction	
(g)	Economic stimulus measures put in place by the European Central Bank	
(h)	Fear that Greece will leave the Euro Zone	

5. The diagram shows movements in the Australia Dollar (LHS) and the RBA Commodity Price Index between January 2017 and June 2023.

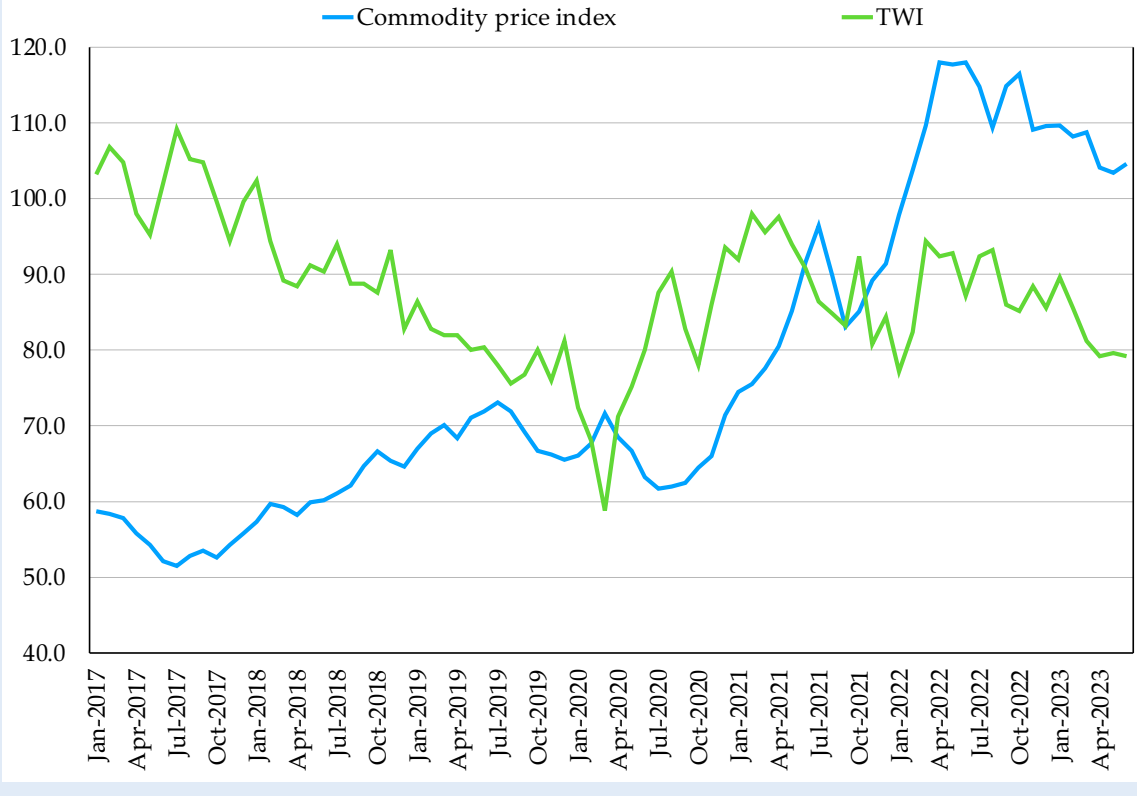


Figure 5.4: Data Source RBA

(a) Explain why the value of the Australian Dollar usually has a strong relationship with commodity prices in general and specific commodity prices such as the gold price in particular.

(b) Describe the relationship between the exchange rate and the commodity price index during the period shown in the chart.

(c) What factors other than changes in commodity prices may have affected the value the Australian Dollar during this period?

5.4 WHAT HAVE BEEN THE MAIN TRENDS IN AUSTRALIA'S EXCHANGE RATE OVER THE LAST TEN YEARS?

The AUD/USD exchange rate trended downwards from above parity in 2013 to about 0.65c at the end of 2022. Between 2016 and 2022 the value of the Australian dollar closely tracked movements in the terms of trade, and caused corresponding changes in Australia's international competitiveness. During the pandemic the US Dollar rose in value due to its status as a safe-haven currency.

5.5 THE EFFECTS OF MOVEMENTS IN THE EXCHANGE RATE

1. What is the impact on aggregate demand and the macroeconomic objectives?

Other things being equal, a weaker exchange rate will lead to a rise in aggregate demand.

While consumption may fall due to a rise in the cost of imported consumer, capital and intermediate goods, this will be offset by a rise in net exports and a rise in foreign investment. The rise in aggregate demand could lead to:

- Faster economic growth: Growth will rise, assuming the shift in aggregate demand outweighs any shift in aggregate supply.
- Higher inflation: Demand-pull and imported cost-push inflation will rise (because of faster growth and higher import prices).
- Lower unemployment: Demand deficiency unemployment will fall as growth increases but this may be somewhat offset by an increase in structural unemployment.

2. Why does a change in the currency affect sectors in different ways?

The impact of an exchange rate movement on any given sector of the economy is influenced by factors such as:

- Whether exports and/or imports are involved and the ratio of foreign earnings to domestic earnings for the sector (i.e. the importance of trade for the sector).
- Whether the price of exported products is quoted in Australian Dollars or US Dollars.
- The degree buyers react to changes in prices caused by exchange rate movements (i.e. the level of price elasticity of demand).
- The level of dynamic efficiency of producers within the sector (i.e. how quickly firms can adapt to the new conditions and, say, change target markets or increase labour productivity).
- Whether producers in a sector are both importers and exporters (i.e. they need to import components or capital goods before they can produce their exports).

Other things being equal, when the exchange rate depreciates the effect on key sectors is as follows:

- **Mining sector:** Profits rise as their exports are priced in US dollars. However, imported capital equipment becomes more expensive.
- **Rural sector:** Exports that are priced in Australian Dollars (e.g. wine, flowers) become more competitive in overseas markets. The impact on revenue depends on the price elasticity of demand for their products. Any imported capital equipment becomes more expensive.
- **Mass-produced manufacturing:** Products (e.g. sportswear) are priced in Australian Dollars and become more competitive so exports may rise and imports may fall. The price elasticity of demand for these products is likely to be relatively elastic so export revenue will rise. Imported machinery and equipment becomes more expensive.
- **Niche, high-end manufacturing:** Exports (e.g. boats, medical equipment) are priced in Australian Dollars and become more competitive. The price elasticity of demand for these products is likely to be relatively inelastic so export revenue will fall. Imported machinery and equipment becomes more expensive.
- **Services:** Exports (e.g. tourism, education) are priced in Australian Dollars. Demand is likely to be relatively elastic, so export revenue will rise. Relatively low level of imported capital equipment required.
- **Retail services:** Imported products become more expensive or profit margins may fall.
- **Household sector:** Imported products become more expensive and inflation increases.

3. Does the impact on the trade balance lead to a J-curve effect?

A fall in the exchange rate value of the Australian dollar:

- Reduces the foreign currency price of exports in foreign markets, making exports more price competitive. Each sale generates the same value of Australian dollars as before, so any increase in sales increases the total level of revenue received from exports. The bigger the reaction to the fall in prices (i.e. the higher the level of price elasticity of demand for exports) the bigger the rise in export revenue.

- Increases the Australian dollar price of imported products. The overall impact on spending on imports will again depend on the level of price elasticity of demand, this time for imported products. If Australians do not react strongly to the higher prices (i.e. demand for imports in price inelastic) then spending on imports will rise. If, however, the reaction to the higher import prices is high (i.e. demand for imports is price elastic), spending in imports will fall.

In both cases, the level of price elasticity of demand is crucial. Taken together, a fall in the value of the dollar will lead to a narrower trade deficit if the combined sum of the price elasticity of demand for exports and the price elasticity of demand for imports is more than 1. This is known as the Marshall-Lerner condition. Overall the sum of price elasticity of demand for exports and imports in Australia is likely to be more than 1 over the medium term, meaning that the Marshall-Lerner condition is met. This means that, in the medium term, depreciation in the value of the dollar is likely to narrow the trade balance, and an appreciation in the value of the dollar is likely to widen the trade balance.

Australia's exports	Price elastic or inelastic?	Australia's imports	Price elastic or inelastic?
Mineral commodities	Inelastic	Intermediate goods	Inelastic
Rural commodities	Inelastic	Capital goods	Inelastic
ETMs	Elastic	Consumer goods	Elastic
Services	Elastic	Services	Elastic
Overall average	Mildly Inelastic	Overall average	Mildly Inelastic

In the short run, demand elasticity for most exports and imports is relatively inelastic. Buyers take time to adjust their pattern of consumption – contracts have been written and marketing plans put in place. In time, however, the level of reaction grows (i.e. demand becomes more elastic). This change in elasticity over time leads to a J-curve effect.

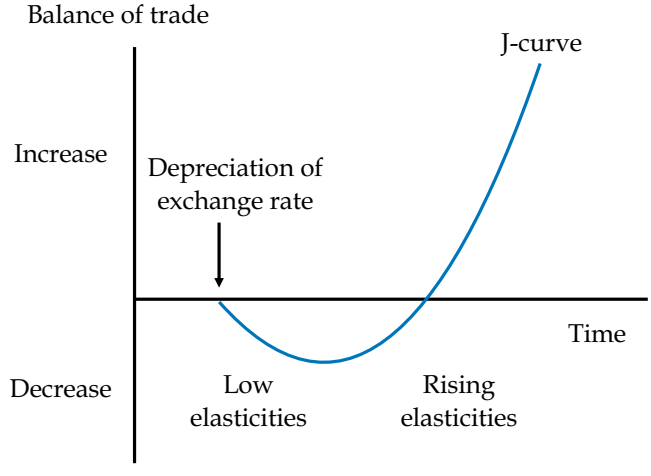


Figure 5.5: J-curve effect

The J-curve assumes the economy has spare production capacity to take advantage of the increase in aggregate demand, and that any inflation caused by the fall in the exchange rate does not eliminate the competitive advantage caused by the currency depreciation.

4. **Does a change in the exchange rate affect Australia's foreign debt?**
Yes! A rise in the value of the Australian Dollar directly reduces the level of Australia's overseas debt by reducing the number of Australian Dollars needed to repay debt denominated in foreign currencies. However, about two-thirds of Australia's foreign debt is denominated in Australian dollars, or is hedged against changes in the exchange rate, so the impact on the size of the foreign debt is modest.

Student Activity 5.4

1. Complete the following table by listing, where appropriate, the positive and negative impacts of a high Australian dollar on the sectors listed.

	Sector	Positive impact	Negative impact
(a)	Mining sector		
(b)	Rural sector		
(c)	Australian volume manufacturing		
(d)	Consumers		
(e)	Tourism		

2. Choose a specific Australian producer and describe how they might benefit from a fall in the value of the Australian Dollar.

3. Complete the following table.

	Statement	Agree or disagree? (Add your logic / reasoning)
(a)	Farmers benefit from a lower dollar.	
(b)	A weaker dollar will make London seem expensive to Australian tourists.	
(c)	A weaker dollar will workings in manufacturing keep their jobs.	
(d)	Electrical goods will become more expensive due to a fall in the AUD.	
(e)	Miners pay more for their imports of capital equipment when the AUD falls.	
(f)	A retiree living on a UK pension gets more income when the AUD falls.	

	Statement	Agree or disagree? (Add your logic / reasoning)
(g)	Winemakers benefit from increased exports when the dollar falls.	
(h)	Copper and zinc exporters gain profits when the AUD falls in value.	
(i)	Margaret River tourist operators receive more visitors when the AUD depreciates.	

4. Assuming the price elasticity of demand for exports and imports is more than 1, state the impact of a lower dollar on the following macroeconomic variables.

(a)	Imported cost-push inflation	
(b)	Domestic cost-push inflation	
(c)	Demand-pull inflation	
(d)	Net exports and aggregate demand	
(e)	Growth	
(f)	Structural unemployment	
(g)	Demand deficiency unemployment	

5. Using an aggregate demand/aggregate supply diagram, show the impact of a depreciation in the exchange value of the Australian Dollar on growth and inflation.

SO YOU THINK YOU UNDERSTAND EXCHANGE RATES	
Definition of exchange rate	**Options to reduce value of AUD** 1 2 3 4
Ways of measuring exchange rate	**Impact of lower exchange rate on sectors**
Ways of describing bilateral rates 1 2	
Two points about calculation of TWI 1 2	
Terminology	**Impact of lower exchange rate on BOGS** 1 2 **On foreign debt** 1 **On growth** 1 2 **On employment** 1 2 **On inflation** 1 2 **On income distribution** 1 2
Diagram of floating rate determination	
Demand for AUD = credit entries in BOP 1 2 3	
Supply of AUD = debit entries in BOP 1 2 3	
Factors affecting the value of the AUD **Long term:** 1 **Medium Term:** 1 2 3 4 **Short-term:** 1	**Performance of AUD in last 10 years** 1 2 3

TEST YOUR KNOWLEDGE

Exchange Rate Multiple-Choice Questions

1. Suppose USD 1 equals AUD 1.50 and EUR 0.80. The exchange rate between the Australian Dollar and the Euro would be:
   (a) AUD 1 = EUR 1.875 or AUD 0.533 = EUR 1
   (b) AUD 1 = EUR 0.533 or AUD 1.875 = EUR 1
   (c) AUD 1 = EUR 0.533 or AUD 0.533 = EUR 1
   (d) AUD 1 = EUR 1.875 or AUD 1.875 = EUR 1

2. Suppose the broad measure of the value of the AUD based on the average value of a number of other currencies is 60. What is the name given to this measure and how is its value interpreted?
   (a) The consumer price index and the value of the currency has risen by 60% from the base year
   (b) The exchange rate index and the value of the currency is 60% of the value in the base year
   (c) The trade-weighted index and the value of the currency is 60% of the value of other currencies
   (d) The trade-weighted index and the value of the currency is 60% of its value in the base year

3. If 1 AUD = 80 JPY (Japanese yen) what will be the cost in AUD (to the nearest dollar) of an imported car priced in Japan at 2m yen?
   (a) AUD 20,000
   (b) AUD 25,000
   (c) AUD 50,000
   (d) AUD 160,000

4. Assuming that, as a result of below trend growth and a rise in unemployment, it is anticipated that the Reserve Bank will reduce the cash rate target. Anticipation of this happening, other things being equal, will lead to:
   (a) A decrease in the demand for the AUD and appreciation in the value of the AUD
   (b) A decrease in the supply for the AUD and appreciation in the value of the AUD
   (c) A decrease in the demand for the AUD and depreciation in the value of the AUD
   (d) A decrease in the supply for the AUD and depreciation in the value of the AUD

5. Which of the following will lead to a decrease in the demand for Australian Dollars on foreign exchange markets?
   (a) A smaller than expected trade deficit in Australia.
   (b) An increase in the outflow of primary incomes in the form of interest, dividends and profits.
   (c) A reduction in the level of foreign direct investment by overseas owned companies involved in mineral and energy production in Australia.
   (d) An outflow of portfolio investment from Australia as overseas investors seek a 'safe haven' for their finances.

6. A rise in the exchange rate will, other things being equal:
   (a) Reduce the price of imports and increase the value of imports if demand is price elastic.
   (b) Increase the price of imports and increase the value of imports if demand is price inelastic.
   (c) Reduce the price of imports and increase the value of imports if demand is price inelastic.
   (d) Increase the price of imports and decrease the value of imports if demand is price inelastic.

7. Which of the following is a correct statement?
   (a) Australian wheat farmers experience a rise in income when the AUD depreciates because the price of wheat falls for overseas buyers.
   (b) Australian manufacturing companies earn more profit when the AUD depreciates because the price of their products falls to overseas buyers.
   (c) Australian tourist operators gain from a fall in the AUD because of the resulting rise in the price of their product overseas.
   (d) Australian mining companies lose from a fall in the AUD because imported capital goods fall in price.

8. Which one of the following is most likely?
   (a) A rise in Australia's terms of trade will lead to a rise in the exchange rate.
   (b) A rise in the exchange rate will lead to a rise in the terms of trade.
   (c) A rise in the exchange rate will in the medium term lead to an increase in a goods and services deficit.
   (d) A worsening on the balance on goods and services will lead to a rise in the exchange rate.

9. Which of the following are correct statements?
   (I) The nominal exchange rate is the value of one currency expressed in terms of another currency.
   (II) The real exchange rate is a comparison of prices in one country compared to prices in another when calculated in a common currency.
   (III) The Purchasing Power Parity (PPP) exchange rate is the rate that makes the price of a product equal in all locations.
   (IV) If the nominal exchange rate is above the PPP rate, the real exchange is greater than 1 and the currency is overvalued.

   (a) Only options I, III and IV are correct
   (b) Only options I, II and III are correct
   (c) Only options II, III and IV are correct
   (d) All the options are correct

10. The movement in the value of the Australian Dollar during the pandemic reflected:
   (a) a reduction in volatility in financial markets.
   (b) a rise in Australian interest rates compared to interest rates rates in the United States.
   (c) a rise in the value of the US Dollar as the US Dollar was seen as a safe haven currency.
   (d) movements in Australia's financial account on the balance of payments.

FOREIGN INVESTMENT

6

SYLLABUS CHECK POINTS

- ☐ The concept of foreign investment in terms of Australia's foreign investment flows
- ☐ The distinction between foreign direct and portfolio investment
- ☐ The link between foreign investment and the current account balance.
- ☐ Trends in Australia's foreign investment flows over the last ten years.
- ☐ The benefits and costs of foreign investment in Australia
- ☐ The concept of Australia's foreign assets, foreign liabilities and international investment position

ESSENTIAL GUIDE TO FOREIGN INVESTMENT	
1	Australia's growth and development has been supported by net inflows of foreign investment. The net inflow of foreign investment helped to close Australia's investment-savings gap. In recent years Australia has become a net lender to, rather than a net borrower from, the rest of the world.
2	The term 'foreign investment' refers to the cross-border movement of finance associated with borrowing and lending and the purchase or sale of assets. These cross-border flows of finance are recorded in the financial account of the balance of payments.
3	Borrowing from overseas increases foreign debt and selling assets to non-residents increases foreign equity. The value of Australia's total foreign liabilities is the value of foreign debt plus the value of foreign equity. Lending overseas, therefore, reduces foreign debt.
4	Foreign investment is classified as direct investment when the investor has enough ownership (defined as 10% or more) to exercise control over the asset. Foreign investment is classified as portfolio investment if the ownership level is less than 10% of the total value of the asset and the main aim of the investor is to earn a satisfactory return from the investment.
5	Australia's total foreign liabilities reached a peak of 60% of GDP in 2009 but this has now fallen back to about 40% of GDP. The value of Australia's foreign debt is more than 100% of the value of total foreign liabilities because the value of Australia's foreign assets is in surplus.
6	Most of Australia's foreign debt is long term and held by the private banking sector.
7	The International Monetary Fund (IMF) is not concerned about the level of Australia's foreign debt because, given Australia's trend growth rate and level of international trade, the debt can be readily serviced (i.e. interest paid) and sustained (i.e. refinanced) without harming the performance of the economy.
8	Opinions vary on the economic impact of foreign equity. There are benefits from the injections it brings to the circular flow (e.g. growth, employment, exports and tax payments), and the dynamic effect from extra competition, economies of scale and technology transfers. However, foreign equity also implies a loss of economic sovereignty.
9	Multinational businesses don't always operate in Australia's national interest. They may, for example, avoid paying a fair amount of tax, cause environmental damage or give preference to the employment of overseas workers rather than local workers.
10	While Australia generally welcomes foreign investment, foreign investment proposals are subject to approval by the Treasurer following a review by the Foreign Investment Review Board (FIRB). The approval process takes account of the potential impact of the investment on matters such as national security, the impact on domestic competition, the impact on economy and community and the character of the investor.

6.1 FOREIGN INVESTMENT FLOWS

1. **What is foreign investment?**
The term 'foreign investment' refers to the cross-border movement of finance caused by borrowing and the sale of assets. These financial flows are recorded in the financial account of the balance of payments. Foreign investment inflows are recorded as credit entries and involve financial inflows that result from borrowing or the purchase of assets. Foreign investment outflows are recorded as debit entries in the financial account and involve financial flows that result from lending overseas, repayment of loans and the purchase of overseas assets.

2. **What types of foreign investment flows are there?**
In the balance of payments accounts the flow of foreign investment is recorded in five sub-sections:
   - **Direct:** Foreign direct investment (FDI) is a form of foreign equity investment. The aim of FDI is ownership and control and the purchase of 10% or more of the equity in a business or property is considered sufficient to achieve this. FDI is closely associated with multinational corporations (MNCs) which are businesses with production facilities in more than one country. FDI inflows have been important in areas such as mining and quarrying (34%), real estate (14%), finance and insurance (13%) and manufacturing (12%).

- **Portfolio:** The purpose of portfolio foreign investment is to generate a satisfactory level of return either from interest, dividends, profit or a capital gain. Investment that involves purchasing less than 10% of the ownership of the asset is considered to be portfolio foreign investment. All loans, therefore, are classified as portfolio foreign investment as there is no transfer of ownership when money is lent or borrowed.
- **Financial derivatives:** Futures contracts are an example of a financial derivative. In a futures contract two parties agree to buy or sell an asset at a price fixed at the time of delivery (the futures price) for payment at some set time in the future. A futures contract is a financial derivative because the contract's value is derived from the value of the underlying asset.
- **Other:** Investment in the other category includes movements in bank deposits, and flows of trade credit provided by businesses to their customers.
- **Reserve Bank:** This category includes changes in the Reserve Bank of Australia's holdings of foreign currency, gold and their Special Drawing Rights (SDRs) position with the International Monetary Fund.

6.2 WHAT IS THE LEVEL OF AUSTRALIA'S FOREIGN EQUITY (OR ASSETS), FOREIGN LIABILITIES AND ITS INTERNATIONAL INVESTMENT POSITION?

1. What is foreign equity (or assets)?

The term 'foreign equity' refers to the stock of assets in Australia owned by overseas citizens, governments or businesses. Gross foreign equity increases when non-residents buy assets in Australia and falls when foreign-owned assets are sold back to Australian residents. Net foreign equity is the value of foreign owned assets minus Australian ownership of assets overseas.

2. What are foreign liabilities?

The term 'foreign liabilities' refers to Australia's foreign obligations to the rest of the world. These obligations are in the form of foreign debt and foreign equity.

- **Foreign Debt:** Foreign debt is the amount of money that Australian residents (both private and public) owe to the rest of the world. Government foreign debt is referred to as sovereign debt. Foreign debt can be measured as gross foreign debt (the total of Australia's overseas borrowing) or net foreign debt (gross foreign debt minus Australian lending to overseas residents).
- **Foreign equity:** Foreign equity is the extent to which foreign residents own Australian assets. Gross foreign equity is the total ownership of Australian assets by non-residents and net foreign equity is gross foreign equity minus Australian ownership of assets overseas.

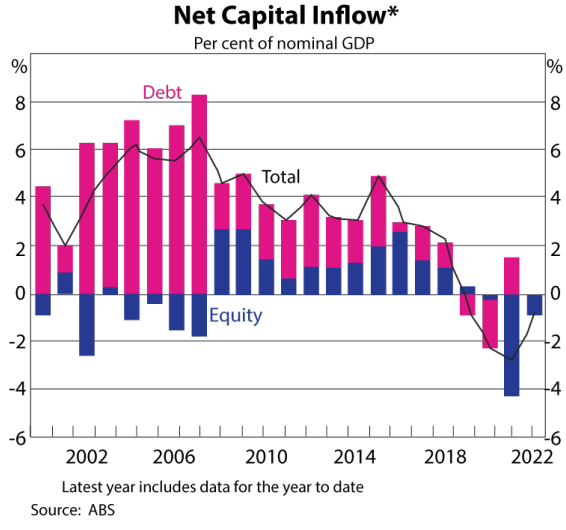


Figure 6.1:Source RBA Chart Pack

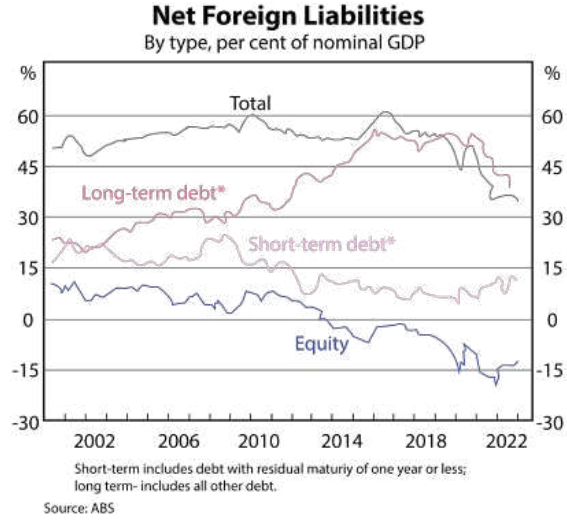


Figure 6.2: Source RBA Chart Pack

- Australia's net foreign liabilities peaked in 2016 at 60% of GDP. Since then, with a shift to current account surpluses the level of Australia's net foreign liabilities has declined to about 40% of GDP.
- Gross foreign liabilities were about $4,300b in mid-2023. Allowing for gross foreign assets of about $3,500b the net international investment position was about $850b.
- Net foreign debt is higher than the total of net foreign liabilities because net foreign equity is positive (i.e. there is a negative liability).
- The majority of Australia's foreign liabilities are denominated or hedged in Australian Dollars while the majority of foreign assets are denominated in foreign currencies so the level of Australia's foreign liabilities is not influenced much by changes in the exchange rate.
- There has been a significant shift from short-term debt to long-term debt. There has also been in shift in the net equity position, mainly due an increase in the level of overseas shares purchased by Australia's superannuation managers. Australian equity investment abroad exceeds foreign equity investment in Australia by 7% of GDP, so the country now has a net foreign equity asset position compared to an average net equity liability position of 10 per cent of GDP between 1990 and 2010.

3. What is Australia's International Investment (or external) position?

Australia's international investment position is a statistical statement which shows Australia's foreign assets (claims on non-residents), foreign liabilities (liabilities to non-residents) and net international investment position (foreign assets less foreign liabilities).

	Sept 2022 ($m)	Dec 2022 ($m)
Balance on current account (a)	753	14,114
Balance on goods and services (a)	31,453	40,903
Net primary income (a)	-30,401	-26,407
Capital and financial account (a)	12,990	-10,067
International investment position (b)	859,901	856,794

(a) Amount during period; (b) Level at the end of the period.

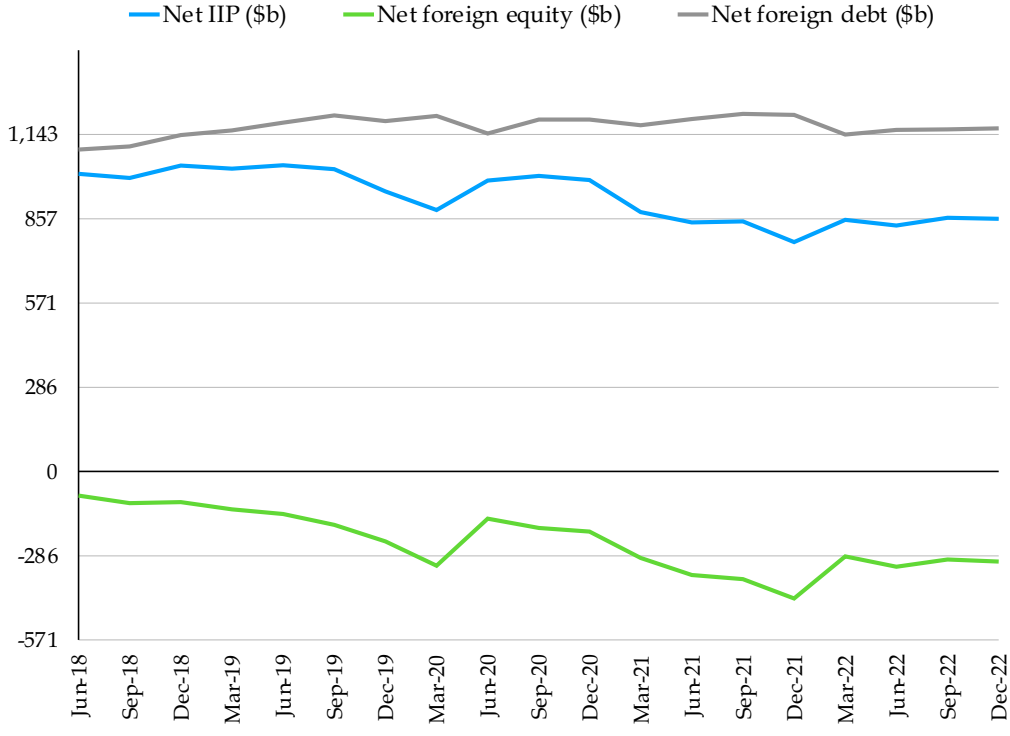


Figure 6.3: Data Source ABS

Student Activity 6.1

1. Assume that a country's net foreign liabilities are $750b. In the next four year the country records current account deficits of $45b, $30b, $25b and $1b respectively. Estimate the level of foreign liabilities at the end of the four year period, stating how you made your estimate.

2. Assume the data in the table below refers to the Australian economy.

Year	Gross Foreign Liabilities ($m)	Gross Foreign Assets ($m)	Net foreign liabilities ($m)
End of 2014-15	1250s	750	(a)
End of 2024-25	(b)	3000	1000

(a)	Calculate the level of net foreign liabilities at the end of the 2014–15	
(b)	Calculate the level of gross foreign liabilities at the end of 2024-25	
(c)	In gross terms what was the level of overseas assets owned by Australians at the end of the financial year 2024-25	
(d)	Calculate the percentage rise in net foreign liabilities between 2014-15 and 2024-25	

3. Complete the following table.

(a)	State the two main forms of foreign investment	
(b)	State the two main kinds of foreign liabilities	
(c)	Is foreign investment a flow of finance over time or a level at a particular moment in time?	
(d)	In which account in the balance of payments is the foreign investment recorded?	

4. Use the charts to compare the composition of Australia's net foreign liabilities in 2012 with the composition in 2022.

5. Account for the changes in the proportion of equity and debt in net capital inflows over the last 10 years.

6. State how Australia acquires (a) foreign assets and (b) foreign liabilities?

6.3 WHAT IS THE MEANING OF THE FOLLOWING FOREIGN INVESTMENT TERMS?

Foreign investment	The term 'foreign investment' refers to the cross-border movement of finance resulting from the sale of assets and borrowing.
Foreign debt	Foreign debt is the amount of money that Australian residents (both private and public) owe to the rest of the world. Government foreign debt is referred to as sovereign debt. Foreign debt can be measured as gross foreign debt (the total of Australia's overseas borrowing) or net foreign debt (gross foreign debt minus Australian lending to overseas residents). Debt accumulates as a result of borrowing.
Foreign equity	Foreign equity is the value of Australian assets owned by foreign residents. Gross foreign equity is the total value of Australian assets owned by non-residents and net foreign equity is gross foreign equity minus the value of overseas assets under Australian ownership. Equity changes as a result of the purchase or sale of assets.
Stock values	A stock value is the value of something at a given point in time e.g. level of foreign ownership and level of foreign debt at the start of a given year.
Flow values	A flow value is the value of transactions recorded over a period of time e.g. the value of portfolio and direct investment and borrowing during a year.
Inward foreign investment	Inward investment (a stock value) or an inflow of investment capital (a flow value) describes investment in Australian assets by foreigners.

Outward foreign investment	Outward investment (a stock value) or an outflow of investment capital (a flow value) describes investment in overseas assets by Australians.
Foreign direct investment	The purpose of Foreign Direct Investment (FDI) is the purchase of enough ownership in an asset to exercise influence and control over its use. It is considered necessary to own at least 10% of an asset for this control. FDI is usually undertaken by multinational companies or through joint ventures between Australian and overseas companies. Typically FDI accounts for between 25–30% of Australia's foreign investment flows.
Foreign portfolio investment	Investment that involves the purchase of less than 10% of the ownership of an asset is classed as portfolio foreign investment. The aim of portfolio foreign investment is to earn a satisfactory level of return from the assets purchased through interest payments, dividends, profits and capital gains. All loans, therefore, are classified as portfolio foreign investment as there is no transfer of ownership when money is lent or borrowed. Portfolio investment includes stocks, bonds, property and shares. The majority of inwards portfolio investment is borrowing by Australian banks but also includes lending by overseas central banks attracted to Australia by its strong institutions and financial stability. Typically portfolio investment accounts for 45–55% of foreign investment flows. Note that flows of derivatives and 'other flows' are also recorded in the financial account of the balance of payments accounts.
Foreign liabilities	The accumulated flows of foreign investment create a stock of foreign debt or foreign equity. The value of the stock of foreign debt when added to the value of the stock of foreign equity sums to Australia's total foreign liabilities. Foreign liabilities' are Australia's financial obligations to the rest of the world.

6.4 WHAT IS THE RELATIONSHIP BETWEEN THE VARIOUS FOREIGN INVESTMENT INDICATORS?

- The Net International Investment Position (IIP) is the difference between the value of Australia's foreign assets (what we own) and foreign liabilities (what we owe to other people). It is a stock measure (value at a particular moment in time).
- The Balance of Payments (BOP) shows the difference between financial inflows and outflows between Australia and the rest of the world over a period of time resulting from international trade, income and investment. Flows of foreign investment are recorded in the financial account of the Balance of Payments in five sub-sections (Direct. Portfolio, Reserve Bank, Derivatives and Other). It is a flow measure (value over a given period of time)
- It follows that the change in value of the International Investment Position (IIP) between the start and the end of a given time period equals the net value of the flows recorded in the financial account of the balance of payments during that time period.
- There are other flow measures related to foreign investment including the Net Capital Flow and the Investment-Savings Gap which is the difference between the flow of total investment and savings in the economy over a given period of time. The gap is closed by flows of foreign investment.
- The investment-savings gap = net capital flow = financial account outcome in the balance of payments (allowing for exchange rate changes and asset revaluation) which, when allowances are made for the capital account balance and errors and omissions, is matched by an equal but opposite current account balance.

The chart on the next page is reproduced from Chapter 3 to highlight the links between the level of foreign investment and the outcome on the balance of payments.

Therefore, to recap:

- The current account outcome is linked to the level of net foreign investment. When Australia's current account moved into surplus in mid-2019, Australia became a net exporter of capital for the first time in over four decades.

NET INTERNATIONAL INVESTMENT POSITION	BALANCE OF PAYMENTS	NET INTERNATIONAL INVESTMENT POSITION
Position **at the beginning** of the time period (Stock measure)	Changes **during** the time period (Flow measure)	Position **at the end** of the time period (Stock measure)

CURRENT ACCOUNT OF BALANCE OF PAYMENTS

Goods
Services
Primary incomes
Secondary Incomes

equals

CAPITAL ACCOUNT and ERRORS AND OMISSIONS

plus

NET INTERNATIONAL INVESTMENT POSITION (IIP)	FINANCIAL ACCOUNT OF BALANCE OF PAYMENTS	NET INTERNATIONAL INVESTMENT POSITION (IIP)
Difference between value of foreign assets and foreign liabilities (Debt and Equity)	Direct Portfolio Reserve Derivatives Other	Difference between value of foreign assets and foreign liabilities (Debt and Equity) Allowing for currency movement and asset appreciation
equals	*equals*	*equals*
NET FOREIGN LIABILITIES	**NET CAPITAL FLOW**	**NET FOREIGN LIABILITIES**

equals

INVESTMENT-SAVINGS GAP

Passage of time →→→

Figure 6.4: Adapted from diagram at www.abs.gov.au

- The financial account outcome in the balance of payments equals the change in the International Investment Position (IIP) over time.
- The IIP indicates the level of foreign liabilities. Foreign liabilities include foreign debt and foreign equity. More than 100% of Australia's foreign liabilities are long-term debt liabilities. Australia's foreign equity liability is now negative (i.e. we have net foreign assets) because of the capital growth of overseas investment by superannuation funds.
- The current account balance and the capital and financial account balance have equal but opposite values by accounting definition. When Australia records a financial account surplus and a current account deficit it is difficult to tell whether the financial account surplus was caused by or resulted from the current account deficit.

6.5 WHAT IS THE SIGNIFICANCE OF THE INVESTMENT-SAVINGS GAP?

The size of the investment-savings gap in the economy is important for determining the demand for foreign investment. Until the last few years, Australia had been a net importer of capital in order to fund its investment-savings gap. Australia is a relatively small, open economy, rich in natural resources. Access to these natural resources, and the development of other areas of the economy such as transport and energy infrastructure, required investment in capital goods. However, with a

relatively small population, domestic savings were not enough to finance all the investment needed. By using savings from overseas, Australians were able to maintain a higher level of consumption spending than would have otherwise been possible. Since 2019, however, Australia has become a net exporter of capital. Fig 6.5 shows the relationship between the investment-savings gap (and hence the level of foreign investment) and the current account balance.

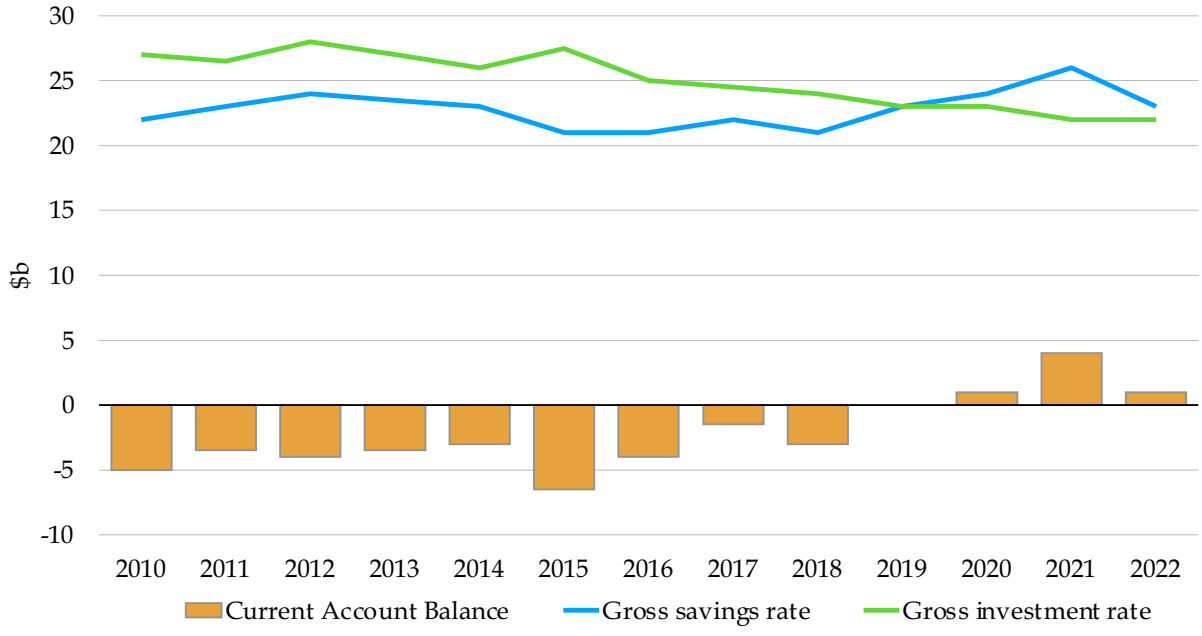


Figure 6.5: Data Source: Productivity Commission

6.6 WHAT ARE THE RECENT TRENDS IN THE FLOWS OF FOREIGN DIRECT INVESTMENT?

- Since the 2008 financial crisis, levels of foreign investment have stagnated in many advanced economies. This reflects several factors, including geographic changes in the level of economic activity (e.g. Chinese economic activity has become more China-focused), the move towards 'asset light' services industries (e.g. social media providers), increased global uncertainty and changes in tax policy (e.g. US tax concessions for repatriated US multinational profits).
- However, Australia largely bucked this trend with strong inward foreign investment inflows. This partially reflected Australia's attractiveness to foreign investors but also the need for large-scale investment in particular sectors of the economy such as mining and finance. Australia remains an attractive host for foreign direct investment (FDI). Australia has the world's 14th largest FDI stock and the 19th largest level relative to GDP. Both of these are above the Organisation for Economic Cooperation and Development (OECD) member country average.

The main drivers of foreign investment into Australia have been:

- **The opportunities to profit from Australia's natural resources:** Multinational firms such as BHP, Chevron and Rio Tinto, flock to Australia because we have the high-quality, easily-won minerals and the energy supplies. Countries without a natural resource base may be seeking to build security of supply for their economies.
- **Market access:** Investors may wish to gain access to established or growth markets for their products where they have a comparative and competitive advantage.
- **Asset acquisition:** Businesses may seek access to new technologies, managerial skills or a skilled labour force that will complement their existing operations.
- **Population:** Australia has a relatively fast growing and well-educated population.
- **Institutions:** Stable cultural and legal environments (e.g. the enforcement of property rights, and the risk of appropriation), the stability of government and the ease of doing business are important factors affecting foreign investment decisions.
- **Political stability:** Compared to other resource rich countries (e.g. in Africa, South America and Russia) 'sovereign risk' is low in Australia. There is little threat of MNCs in Australia facing, for example, government take-overs, wars or civil unrest.

- **Macroeconomic stability:** Relatively stable financial conditions add to the attractiveness of a country for FDI. Large and unpredictable fluctuations in these factors add to investment uncertainty.
- **Government incentives:** The Australian Commonwealth and State governments generally encourage FDI. For example, State Governments entice MNCs to their state through incentives.

Student Activity 6.2

1. Explain why Australia needed a regular net inflow of foreign investment during the mining investment boom.

2. Why does Australia record a deficit in the net primary income section in the current account of balance of payments? What is the opportunity cost of this primary income outflow?

3. Describe three reasons why Australia is able to attract inflows of foreign investment.

4. Complete the table below by stating the relationship between the values stated.

(a)	The financial account in the balance of payments and changes in the International Investment Position.	
(b)	The financial account and the current account of the balance of payments.	
(c)	The financial account in the balance of payments and the Net Capital Flow	
(d)	The International Investment position and the level of foreign liabilities.	
(e)	The Savings-Investment Gap and the Net Capital Flow.	
(f)	The Net Capital Flow and the level of foreign liabilities.	

6.7 THE BENEFITS AND COSTS OF FOREIGN DIRECT INVESTMENT

FOREIGN DIRECT INVESTMENT
Direct benefits • Foreign direct investment (FDI) supplemented our national savings when there was an investment-savings gap. • FDI increases capacity, leads to capital deepening and boosts productivity. It provides a way of breaking out a 'low-growth trap' and creates a legacy for future generations. • FDI allows Australia to exploit areas of comparative and competitive advantage (e.g. mineral and energy production, agriculture, education and tourism). • Increased economic activity generates a fiscal dividend for the government.
Spillover benefits • Extra spending triggers multiplier processes in the economy (e.g. along supply chains and transport and communications services) and may stimulate local industries. • FDI is likely to create benefits from knowledge transfer, access to technology, improved management and more productive work practices. • The international perspective of foreign owners may enable increased participation of Australian firms in global value chains. • International firms may be in a better position to cope with crises, through their more diverse business operations. • A good proportion of the profits made by foreign investors, especially those in the mining sector, has been retained and ploughed back into the business to finance further expansion, so it can be argued that much of the investment finance has been provided by the companies themselves.
Direct costs • FDI leads to a loss of business ownership and control. In particular, this is a concern in strategic and sensitive areas of the economy (e.g. port facilities, electricity distribution and agriculture). • FDI generates an outflow of primary income through dividend payments and repatriated profits. • Foreign owners might be prone to import intermediate and capital goods. • FDI may reduce the level of competition in a market and limit opportunities for domestic producers, especially if unwarranted transfer of intellectual property is involved. • MNC's may appoint overseas workers to key positions in their organisation.
Spillover costs • Many countries find it difficult to tax multinationals effectively. There is some evidence that MNC's (such as Apple and Alphabet (Google)) pay less tax in countries where tax rates are relatively high. They may exploit tax-avoidance strategies e.g. transfer pricing (where MNCs effectively sell products or components to themselves across international borders), through 'thin capitalisation' (where debts are allocated to group companies in countries with high tax) and payment of 'intangible asset rents' (where royalties are paid to group companies in high tax countries). • Some investors generate negative cultural, social and environmental externalities by not adhering to domestic regulations e.g. Rio Tinto's destruction of the Juukan Gorge rock shelters to access 8m more tonnes of iron ore, and Adani's exploitation of coal deposits in the Galilee Basin. • Foreign ownership can threaten national security e.g. Huawei's involvement in Australia's 5G network, and purchases of agricultural land. • Foreign investment in real estate pushes up property prices and reduces affordability for local would-be buyers. • The character and suitability of foreign owners may be questionable e.g. China is neither an ally nor a democracy.

6.8 AUSTRALIA'S POLICY RESPONSE

The Australian Government's regulation of foreign investment seeks to strike a balance between its positive and negative aspects, and to maintain confidence that foreign investment is in the national interest. Australia regulates inflows of foreign investment through a process of screening. Proposals are screened using a negative national interest test, that is the government approves foreign investment proposals unless it can show the proposal is against national interest. The Treasurer has the flexibility to define the national interest as they see fit and take advice from the Foreign Investment Review Board (FIRB), the Australian Competition and Consumer Commission (ACCC) and the Critical Infrastructure Centre. Australia's 'national interest' is likely to include:

- National security, based on assessments by the FIRB and security agencies.
- Competition levels, e.g. where an acquisition may allow control of the supply of a product into the domestic market.
- Control of critical infrastructure (e.g. ports)
- Tax and environmental impacts of the investment (e.g. coal mining)
- The general impact on the economy and community, including employees, creditors and other stakeholders.
- The character of the investor, including whether they operate on a commercial basis (i.e. are not owned by sovereign wealth funds or controlled by government agencies) and are subject to regulation and supervision in their home country.

Australia also operates specific ownership quotas in some sectors. Many of these restrictions prohibit majority ownership by foreign investors collectively and in some sectors there are also ownership limits for individual foreign investors. These restrictions include:

- Aggregate foreign ownership in an Australian airline (including Qantas) is limited to 49 per cent (with any one foreign holding capped at 35 per cent) .
- The *Airports Act 1996* limits foreign ownership of some individual airports and groups of airports.
- The *Shipping Registration Act 1981* requires a ship to be majority Australian-owned if it is to be registered in Australia.
- Aggregate foreign ownership of Telstra is limited to 35 per cent and individual foreign investors are only allowed to own up to 5 per cent.
- Foreign non-residents can only invest in residential property if that investment (directly) adds to the housing stock. Established dwellings cannot be purchased. Temporary residents can only buy an established dwelling if it is used as their residence and sold when they leave Australia.

Student Activity 6.3

1. Describe three ways foreign direct investment increases the rate of economic growth in Australia.

_____

_____

_____

2. Describe one way foreign direct investment can have a positive impact on employment in Australia and one way it can have a negative impact.

_____

_____

3. Describe one way foreign direct investment can have a positive impact on tax revenue in Australia and one way it can have a negative impact.

4. Describe two advantages to the nation of obtaining foreign savings in the form of equity.

5. What is the role of Australia's Foreign Investment Review Board (FIRB)? On what grounds will the Treasurer approve or reject a foreign direct investment proposal?

6. Is the country of origin of foreign direct investment important? Is, for example, investment from one country less welcome than investment from another?

6.9 BORROWING AND FOREIGN DEBT

1. Can you provide some background information about Australia's foreign debt?

There are some things about foreign debt that need to be understood before it is possible to judge whether or not foreign debt is a problem.

- **Servicing the debt:** Interest has to be paid on borrowed money. Interest payments cause an outflow of primary income from the economy and contribute to the current account deficit in the balance of payments. The debt can be serviced (i.e. interest paid) when the economy earns sufficient foreign exchange from exporting products.
- **Sustaining the debt:** Debt has to be constantly renewed or sustained. New borrowing is needed to replace loans that mature. If, for some reason, borrowing becomes difficult, for example, if there were another international banking crisis, debtors would find themselves in a difficult position.
- **Reducing the level of debt:** Public sector, or government foreign debt is reduced when the budget is in surplus. However, getting the budget into surplus involves some unpopular tax increases and/or expenditure cuts. Reducing private sector foreign debt means closing the investment-savings gap. This can be done, for example, by a reduction in investment and/or an increase in the level of corporate and household saving.

2. **What indicators show the burden of the foreign debt?**
   - **Debt-servicing ratio:** This is a ratio of interest payments on the debt per year compared to the value of exports per year. Currently the debt-servicing ratio is about 15%, low by international standards. The IMF classifies economies as problem debtor countries when the debt-servicing ratio is over 50%. If interest rates rise and/or exports fall then the ratio will rise.
   - **Interest / GDP ratio:** This is a ratio of interest payments per year divided by the value of GDP per year. Currently this ratio is about 3%, very low by international standards
   - **Net Foreign Debt / GDP ratio:** This is a ratio of net foreign debt to GDP. It is about 55% in Australia. This is lower than many OECD countries, for example, US (90%), Germany (80%), UK (75%), and the G7 average (65%).
   - **Public Debt / GDP ratio:** This is a ratio of government or sovereign debt to GDP. Currently this ratio is about 12% in Australia. The IMF classifies economies as 'problem debtor economies' if the public debt to GDP is over 50%.
   - **Long-term interest rates:** The difference between long-term interest rates (e.g. 10 year bond rates) in US and Australia is an indication of the risk premium needed to hold Australian dollar, rather than US dollar, backed securities. The current differential is currently low and indicates a low level of concern about Australia's debt or future changes in the exchange rate value of the Australian Dollar.
   - **Credit ratings:** Australia is one of only 10 countries in the world with a triple A credit rating from all the credit rating agencies, although the triple A status is under review.

3. **Why isn't Australia worried about its foreign debt?**
   There are a number of reasons for taking a relaxed view about the level of foreign debt.
   - **Debt ratios are low by international standards:** The various ratios used to indicate the size and potential burden of the debt are all relatively low by international and IMF standards. Borrowing has helped the economy sustain economic growth and sell exports. Australia has sound financial, political and legal systems that help maintain its triple-A credit rating. The exchange rate has not come under significant selling pressure due to concerns about the foreign debt
   - **Consenting adults:** Most of the foreign debt is the result of borrowing by the private sector rather than the public (or government) sector. Businesses in the private sector are described as 'consenting adults' because they know what they are doing (basing their decisions on commercial judgment) and they have to face the consequences of their decisions (making a loss or losing shareholder support). Public sector borrowing, by contrast, may not be based on commercial judgment and the burden of the debt is passed on to future generations of taxpayers.
   - **Creating a legacy for future generations:** If borrowing leads to investment in productive capacity and improved infrastructure, benefits will flow to future generations through higher a material standard of living, higher export earnings and stronger government finances.
   - **CADs seem to self-correct:** Australia's current account deficit follows a cyclical path (see the chart in Chapter 5). There is a degree of automatic or self-correction at work. For example, when the economy grows quickly and actual output is near potential output, incomes and the exchange rate tend to rise and, in turn, this increases the value of consumption and capital goods imports. The current account deficit has generally stayed within a manageable 2% to 6% range, given that primary income outflows cause about 3% of the deficit.

4. **In what circumstances could the foreign debt become a cause for concern?**
   On the other hand, the foreign debt may cause a number of problems.
   - **Increased vulnerability in a crisis:** If global financial and capital markets are disrupted for some reason, highly geared companies with high levels of debt may find it difficult to sustain and service these debts.
   - **Less room for fiscal stimulus:** The Australian Government was debt free at the onset of the Global Financial Crisis in 2007–08. This allowed them to deliver a strong fiscal stimulus in response to the crisis, through spending money on, for example,

school buildings and computer equipment. Now, however, with government debt over $300b, there is less scope to deal with the next sharp economic slowdown, should one occur.

- **A rise in interest rates:** A rise in interest rates will cause a rise in the cost of servicing the debt. This will make the debt trap worse. Also mismanagement of the economy could lead to a reduction in our credit rating, leading to a rise in interest rates.
- **Burden on future generations:** Debt has to be serviced and sustained until it is repaid. The burden of the debt is carried over to future generations, especially if the spending financed by borrowing has not been productive (e.g. on the existing housing stock, on shares or on consumption products).

6.10 THE BENEFITS AND COSTS OF FOREIGN BORROWING AND DEBT FINANCE

FOREIGN DEBT

Direct benefits

- Helps close the investment-savings gap. Increases effective supply of savings and reduces interest rates.
- Finances investment that increases production capacity, boosts productivity and allows firms to exploit comparative and competitive advantage.
- Provides a legacy for future generations (e.g. the development of health, education and transport infrastructures).
- The majority of Australia's debt is held by the private sector, especially the banking sector, where decisions to borrow are based on commercial judgement and subject to the potential scrutiny of shareholders.
- Servicing the debt is affordable. Australia's debt servicing ratio (interest payment/exports) at 15% is low by international standards). Interest rate are set to stay low for several years.

Spillover benefits

- All extra spending triggers multiplier processes in the economy.
- Increased economic activity creates a fiscal dividend for the government through higher tax payments and reduced benefit obligations.
- Borrowing involves no loss of ownership or control of businesses or assets.
- As Australia's foreign liabilities (both debt and equity) are largely denominated in Australian Dollars and our foreign assets (debt and equity) are largely denominated in foreign currencies, a depreciation of the Australian Dollar has little impact on our debt level and servicing.

Direct costs

- Debt generates an outflow of primary income in the form of interest payments. These are recorded in the current account of the balance of payments.
- Interest payments have to be made regardless of the capacity of the borrower to pay (as opposed to dividends which can be cancelled or deferred when profits fall).
- A debt trap can develop where money has to be borrowed to pay interest on previously borrowed money.
- A high level of government debt means the government has less scope to deal with future crises.

Spillover costs

- Borrowing may be a way of financing an expenditure-income gap. When aggregate expenditure (C+Ip+G+X) is greater than the value of output (GDP) the gap between the two has to be imported. These imports cause a trade deficit that, in turn, has to be financed by inflows of foreign investment.
- Debt increases an economy's vulnerability should global capital and financial markets be disrupted. Such a disruption could lead to a significant fall in the exchange rate and lead to inflation.
- Debt finance is less likely to generate some of the benefits of foreign direct investment, e.g. knowledge transfer, access to technology and improved management and work practices.

Student Activity 6.4

1. Describe how a country can get into a 'debt trap'? What are the problems of having a 'debt trap'?

2. State three indicators used to show the level or potential burden of foreign debt. What do these indicate about the level of Australia's foreign debt?

3. In what circumstances might Australia's foreign debt become a cause of concern?

SO YOU THINK YOU UNDERSTAND FOREIGN INVESTMENT

Two reasons why Australia needs foreign investment inflows

Two main forms of foreign investment
1
2

Definition of foreign liabilities

Two main forms of foreign liabilities
1
2

Difference between gross and net foreign investment

Difference between portfolio and direct foreign investment

Three other types of foreign investment recorded in financial account of balance of payments:
1
2
3

Facts about Australia's foreign liabilities
1
2
3

Five indicators of size and burden of foreign debt
1
2
3
4
5
6

Four reasons why foreign debt is not a cause of concern for Australia.
1
2
3
4

Four reasons why foreign debt may become a cause of concern for Australia.
1
2
3
4

Top three countries of origin of foreign direct investment finance
1
2
3

Three industries where foreign investment has an important impact
1
2
3

Six advantages to Australia of FDI
1
2
3
4

5
6

Four problems associated with FDI
1
2
3
4

Four links to current account of the balance of payments
1
2
3
4

TEST YOUR KNOWLEDGE

Foreign Investment Multiple-Choice Questions

1. Foreign investment is:
   (a) A flow of physical capital used to make goods and services.
   (b) A flow of financial capital used to purchase physical capital.
   (c) A flow of goods and services used to produce a financial outflow.
   (d) A flow of physical capital used to generate a flow of incomes.

2. The extent of Australia's foreign liabilities at a given time is shown in:
   (a) The incomes section of the current account in the balance of payments accounts.
   (b) The capital account of the balance of payments accounts.
   (c) The financial account of the balance of payments accounts.
   (d) Australia's International Investment Position statement.

3. Which of the following will occur as a result of the sale of 15% of the shares in an Australian company to a Chinese company?
   (a) An increase in foreign debt and decease in net foreign debt.
   (b) A decrease in foreign liabilities and decrease foreign debt.
   (c) An increase in foreign direct investment and foreign equity.
   (d) An increase in foreign portfolio investment and foreign equity.

4. Which one of the following statements is INCORRECT?
   (a) Foreign investment enables Australian businesses to purchase capital goods and expand production capacity.
   (b) Foreign investment inflows indirectly create employment because they provide an injection into the circular flow of the economy and a multiplier effect.
   (c) Foreign investment increases Australia's net worth because extra financial capital is entering the economy.
   (d) Foreign investment increases Australia's foreign liabilities.

5. Which of the following is most likely to decrease the level of Australia's foreign debt in the short term?
   (a) A depreciation of the Australian dollar.
   (b) A rise in the level of national savings.
   (c) A Federal Government budget deficit.
   (d) A rise in the current account deficit.

6. Foreign direct investment differs from portfolio investment because foreign direct investment:
   (a) is recorded in the financial account of the balance of payments whereas portfolio investment is recorded in the incomes section of the current account.
   (b) is less likely to be associated with the transfer of new techniques and management practices.
   (c) involves the investor gaining a significant level of ownership and control of a business.
   (d) is less likely to result in loss of economic sovereignty.

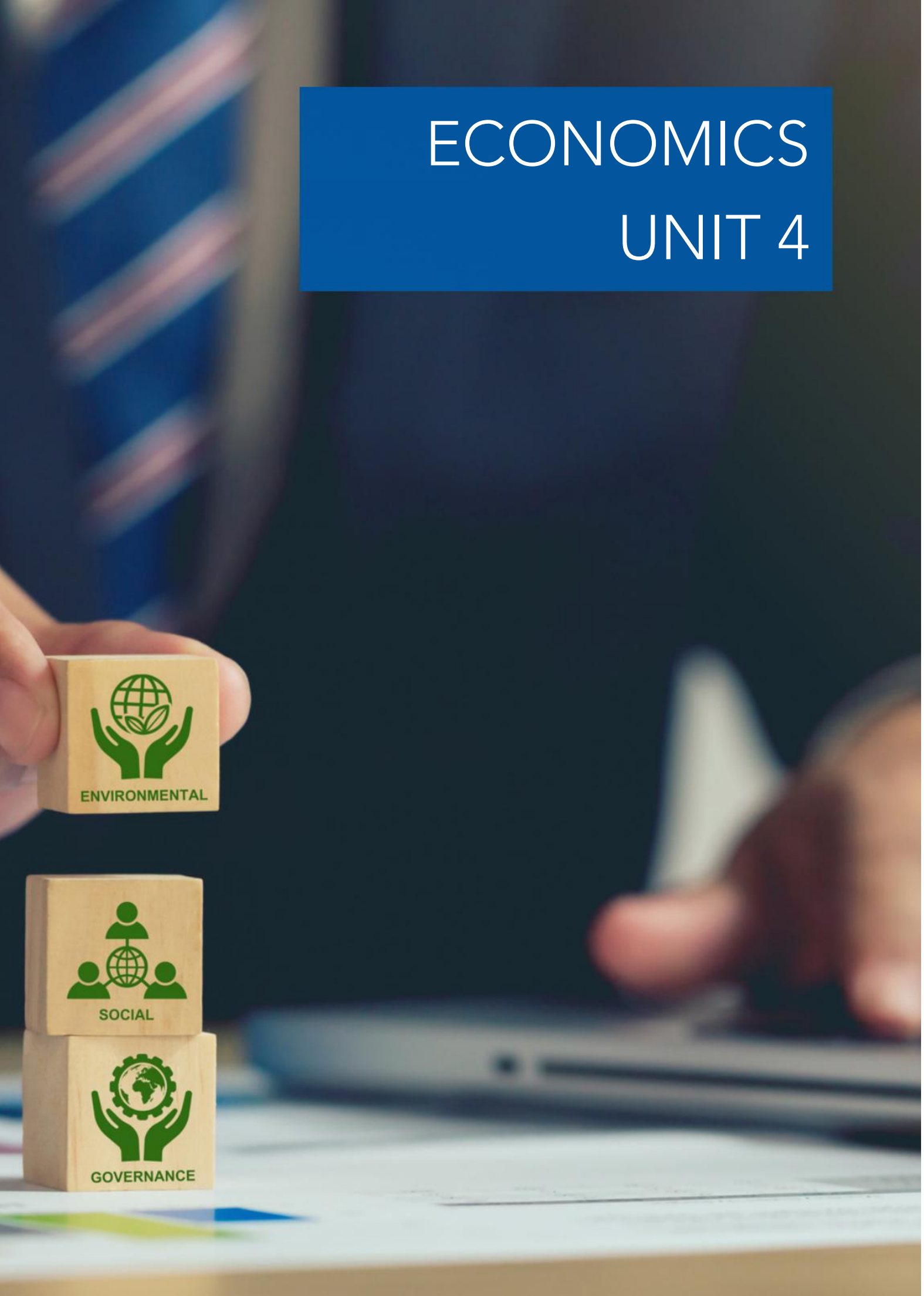
7. Which of the following make up the majority of Australia's net foreign liabilities?
   (a) Public sector of Government debt.
   (b) Private sector debt.
   (c) Foreign equity owned by multinational corporations.
   (d) Foreign equity ownership by overseas governments.

8. Which of the following is LEAST LIKELY to happen as a result of foreign direct investment by an Indian firm in an Australian coal mine?
   (a) An increase in borrowing recorded on the financial account of the balance of payments.
   (b) An increase in coal exports recorded on the goods account in the balance of payments.
   (c) An increased outflow of dividends and profits recorded on the primary incomes section of the balance of payments.
   (d) An increase in imports of mining equipment recorded on the goods section of the balance payments.

9. Which of the following is a valid reason why Australia's foreign liabilities impose a burden on future generations?
   (a) All foreign liabilities eventually have to be repaid.
   (b) Money earned in the future from exports will have to be spent paying for outflows of interest, dividends and profits.
   (c) Interest rates will be higher in the future for Australians who borrow in global capital and financial markets.
   (d) The inflow of foreign investment that created the foreign liabilities will have financed an expansion of productive capacity.

10. A significant fall in foreign investment would in the short run be most likely to cause:
   (a) a rise in the level of aggregate demand and, therefore, a rise in inflation
   (b) a rise in the current account deficit and, therefore, a fall in aggregate demand
   (c) a fall in the exchange rate value of the Australian dollar and, therefore, a rise in inflation
   (d) a fall in the terms of trade and, therefore, a fall in real incomes

ECONOMICS
UNIT 4



AUSTRALIA'S MACROECONOMIC PERFORMANCE AND THE BUSINESS CYCLE

7

SYLLABUS CHECKPOINTS

- ☐ The causes and turning points of the business cycle
- ☐ The relationship between the business cycle and economic indicators.
- ☐ Trends in Australia's macroeconomic performance over the last ten years

ESSENTIAL GUIDE TO AUSTRALIA'S MACROECONOMIC PERFORMANCE AND THE BUSINESS CYCLE	
1	The business cycle model shows how an economy typically travels over time by predicting a typical short-run growth path for an economy where total output moves above and below the long-term average or trend path. The business cycle model suggests that an economy passes through a regular sequence of stages or phases. A boom becomes a downturn or recession, then a slump or trough, then a recovery or upswing and then returns to a boom. During the cycle, the economy's output gap changes. The output gap is the difference between the level of actual output and the level of potential output. In a boom the output gap is very small (possibly even negative) and in a slump it is large.
2	The cyclical path of the economy is the result of the combined affects of: • Cumulative processes such as the multiplier process, accelerator investment effects, waves of consumer and business confidence and changes in productivity. • Upper turning points (or ceilings) which may be caused, for example, by supply shortages and lower turning points (or floors) caused, for example, by households' consumption of necessities. • Automatic stabilisation due to market adjustments (e.g. energy prices) and through the design of the tax system and welfare spending. • Discretionary fiscal and monetary policy measures that affect the level of aggregate demand and aggregate supply.
3	In practice economies do not follow typical or model business cycles because economies are affected by demand and supply shocks which circulate around the world through, for example, trade, travel, finance and currency movements. However, the business cycle model is still helpful in understanding some of the changes in the level of economic activity.
4	There are lots of data that help indicate the phase of the economic cycle including data for: • Macroeconomic objectives such as growth rates, inflation rates, unemployment rates and income distribution • Components of aggregate demand (C, Ip, G + X – M), leakages (S, M, T) and injections (I, G, X) • Features of economic models, such as the size of the output gap. • Policy settings and changes for interest rates and the government's budget balance. • Production indicators, such as energy consumption and concrete consumption.
5	The Government and RBA share a number of macroeconomic objectives. These are: • sustained and inclusive economic growth, say a trend growth rate of about 3.5%. • price stability or low inflation, that is inflation between 2% and 3% pa over the life of the economic cycle. • full employment, or zero cyclical unemployment or NAIRU (the non-accelerating inflation rate of unemployment). • an equitable distribution of income, allowing people to share the benefits of growth • environmental sustainability, e.g. zero carbon emissions by 2050. • an efficient allocation of resources, productivity growth and avoidance of waste or deadweight loss.
6	Lagging or backward-looking indicators provide data about past economic activity, coincident indicators provide data about present economic activity and leading or forward-looking indicators provide data about future economic activity.
7	General indicators provide data about the aggregate macro-economy and partial indicators provide data about parts of the micro-economy.
8	Cyclical indicators are those that improve as the economy recovers (e.g. growth and employment). Counter-cyclical indicators get worse as the economy recovers (e.g. inflation and environmental sustainability)
9	Without changes in aggregate supply, achieving all the macroeconomic objectives at the same time is difficult. If aggregate demand increases without a corresponding increase in aggregate supply, while some objectives are compatible (e.g. trend growth and lower unemployment) other objectives are incompatible (e.g. trend growth and low inflation).

10	The growth objective • Economic growth is an increase in the capacity of an economy to produce goods and services over time. Economic activity involves the production of goods and services, earning incomes and spending. Sustained and inclusive growth allows most people to enjoy rising material living standards but it is unlikely to be balanced across all sectors and regions in the economy. • The main indicator of growth is the real change in gross domestic product (GDP) although this is a measure of output rather than capacity. • As a measure of the standard of living or well-being, GDP leaves a lot to be desired. Some economic activity is missed out altogether, some is under-valued and some is over-valued. Problems of interpretation include changes in income distribution, population, the terms of trade and the quality of products. • From 2014–20 growth was below the previous trend level. The economy was caught in a so-called 'low-growth trap' of low productivity growth, low wages growth and an end to the mining investment boom. Between 2020–22 the effect of the pandemic meant growth was erratic and, as the economy recovered in 2023–24, inflation, war in Eastern Europe and geo-political tension with China continued to subdue growth rates.
11	The price stability (low inflation) objective. • Inflation is a sustained, appreciable rise in the price level over time. It causes a fall in the purchasing power of money. Generally inflation is considered to be undesirable because causes an arbitrary redistribution of incomes, a loss of international competitiveness, a loss of business and consumer confidence and a reduction in efficiency. • Headline inflation is measured as the rate of change in the Consumer Price Index while underlying inflation excludes outlier and volatile price movements. • The Reserve Bank aims to keep inflation within a 2% to 3% pa target range. The idea behind a 2% to 3% inflation target, rather than a zero target, is to make deflation (a fall in the price level) unlikely. Deflation is associated with negative growth and high unemployment because consumption spending is postponed and the real value of debt rises. Profits fall because sales prices tend to fall by more than business costs. • From 2014–20 inflation was generally within the target range or a little below it. During and post pandemic it has risen, largely due to cost push factors associated with supply-chain and transport issues, the impact of climate change and a rise energy prices.
12	The full employment objective • The government considers the 'full employment' objective to have been met when unemployment is at the so-called non-accelerating inflation rate of unemployment (or NAIRU). • The objective of achieving NAIRU is to reduce the economic and social costs that unemployment imposes on individuals, society and government. • The unemployment rate is just one indicator of the state of the labour market. Other indicators include the participation rate, the employment to working age population rate, the level of underemployment and the number of hours worked per month. • From 2014–20 unemployment rate fell from about 6% to 5%, while the underemployment rate was steady at about 9% and underutilisation rate fell from 15% to 13%. There was a short-lived spike in all three measures at the start of the pandemic, but subsequently these have fallen to 4%, 6% and 10% respectively reflecting changes in the working-age population and the participation rate. Government support programmes (e.g. JobSeeker) during the pandemic were designed to avoid long-term 'scarring' in the labour market.
13	The equitable distribution of income objective • Ideally the benefits of growth should be inclusive and broadly-based. Achieving an equitable or fair distribution off income is one of the government's four key roles. The government's redistribution policies centre on the transfer (e.g. pensions and benefits) and taxation (e.g. progressive income tax) systems. • However the concepts of equity and fairness are subjective. There is disagreement about the ideal level of redistribution as too little redistribution may be unfair but too much redistribution may harm productivity and growth by reducing incentives. • Income distribution in an economy can be shown on a Lorenz Curve and measured by calculating the Gini-coefficient. • The focus of growth during the 2010's was mining, energy, travel, education services and property. Both the pandemic and the inflation that followed were regressive, hitting hard those on relatively low incomes. The Labor Government's changes to tax, benefit and minimum wage rates have been more progressive.

14	The environmental responsibility objective • The government has a duty to protect the environment and promote the efficient use of resources. The target is to reach net zero carbon emissions by mid-century. Net zero is achieved when level of carbon emitted into the atmosphere and the level of carbon drawdown from the atmosphere become equal. Achieving net-zero is vital to limit global warming. • Critics claim Australia is dragging its feet in addressing global warming and climate change. Australia faces a climate change paradox as the factors that have formed the basis of Australia's economic strength in the past are emissions intensive. All States and Territories have their own climate change targets and policy statements.
15	Three main policies are used in economic management; (a) fiscal policy which involves changes in the balance between government spending and taxation, (b) monetary policy which involves changes to interest rates as a result of changes in the RBA's cash rate and (c) supply-side reforms which try to improve market performance in areas where is no market failure and increase government intervention in areas of market failure.
16	Management of the economy is not straightforward. For example, there are a number of time lags involved in the process, including recognition lags (time to be sure the economy is off course), decision and implementation lags (time to work out what to do, put measures in place and get legislation through the parliament) and effect or impact lags (time before households and businesses respond to the policy changes).

7.1 BUSINESS CYCLES

1. What is the business cycle?

The business cycle model predicts a typical short-run growth path for an economy with total output moving above and below the long-term average or trend path. During the business cycle there is a rise and fall in the economy's output gap. The output gap is the difference between the actual level of output and the maximum possible or potential level of output.

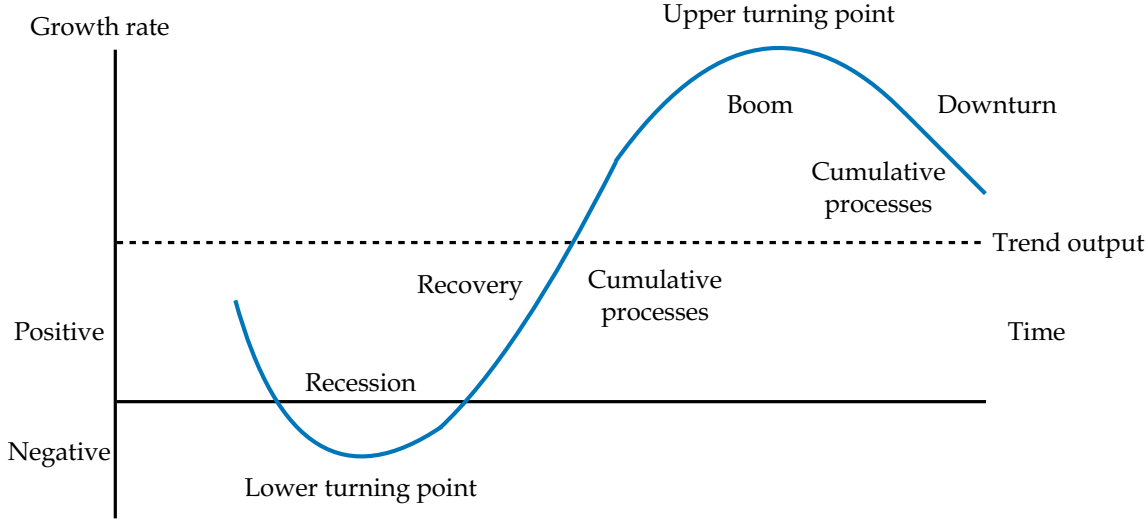


Figure 7.1

The model suggests that an economy typically passes through a regular sequence of phases or stages. These stages are:

- **Boom:** Actual output is close to (or occasionally above) the level of potential output
- **Downturn:** The size of the gap between actual output and potential output increases
- **Slump:** Actual output is well below potential output
- **Recovery:** The size of the gap between actual output and potential output decreases

In the model booms always lead to slumps (or busts). However, in the real world the path of an economy is not so regular or clear cut.

Term	Explanation
Output	The level of output is linked with the level of income and expenditure in the economy. The level of expenditure is known as aggregate expenditure or aggregate demand and is the sum of consumption, planned investment, government spending and net exports.
Potential output	Potential output is an economy's maximum level of output or long run aggregate supply over a period of time. The capacity of the economy is determined by the quantity economy's resources and the efficiency with which they are used.
Trend output	The average output achieved in previous years.
Actual output	The output in a given time period, GDP or national income.
Output gap	The difference between potential output (aggregate supply) and actual output (aggregate demand). The gap varies during the cycle.
Recession	Two consecutive quarters of negative economic growth. Economies can experience periods of low growth without slipping into a recession.

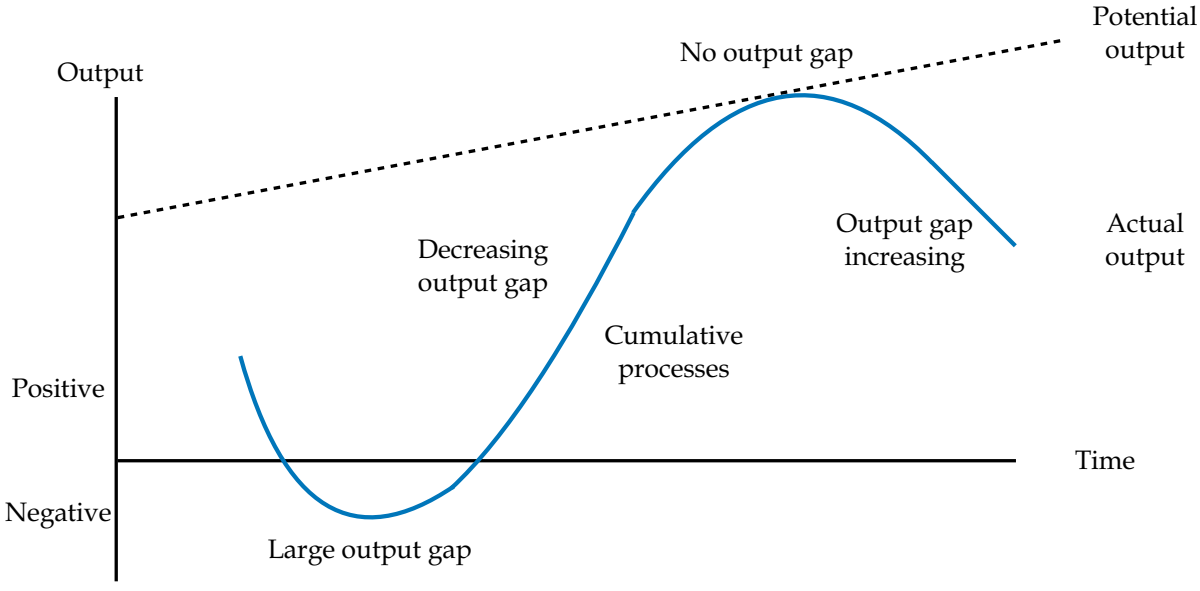


Figure 7.2

2. What are the key features of the model?

The business cycle model has a number of key features.

- **A series of stages:** Economies pass through a sequence of recognisable stages i.e. recovery or upswing, boom, downturn and slump or recession.
- **Cumulative movements in economic activity:** The level of economic activity is affected by cumulative, successive or domino processes because of the forces within the economy's circular flow of income. Examples of these cumulative processes are multiplier processes and waves of confidence and sentiment. There were many examples of negative multiplier or domino effects created during the Covid lockdowns. For example, international and interstate travel bans led to the loss of work for aircrews, airport workers, caterers, people providing transport links, hotels, tour companies and so on. The loss of incomes by these workers caused, in turn, a reduction in their discretionary spending and hence incomes throughout the economy. (See Chapter 10 for a fuller explanation of the multiplier process).
- **Automatic fiscal stabilisation:** When the level of economy activity falls, tax revenue automatically falls and government spending on welfare, such as income support, automatically rises. Other things being equal, these automatic changes alter the

fiscal balance and help support or stimulate economic activity. Equally when economic activity rises tax revenue automatically rises and welfare spending falls leading to a dampening of economic activity. For example, the Covid-recession automatically reduced the level of tax revenue from taxes on incomes as about half of the Government's revenue comes from income tax. At the same time, government outlays on existing welfare payments and support programmes such as JobKeeper allowances increased. The decrease in the budget balance (or increase in the budget deficit) provided a stabilising net injection into the economy.

- **Discretionary stabilisation:** The Government and Reserve Bank can directly alter their economic stance to help stabilise the economy. The Government can alter their fiscal balance through changes to tax rates and levels of spending and the Reserve Bank can use monetary policy instruments such as the level the cash rate to influence aggregate demand. For example the Reserve Bank cut the cash rate to 0.1% in November 2020 and took steps to control some other interest rates. It also provided liquidity to financial institutions especially during March 2020 when superannuation funds and banks faced high levels of withdrawals.
- **Upper turning points:** In the short term the economy has a given capacity to produce goods and services. When actual output approaches production capacity (i.e. the output gap shrinks) inflation will limit further increases in the level of aggregate demand. Additionally shortages of resources (e.g. of skilled labour and of capital equipment) can limit further expansion of aggregate supply.
- **Lower turning points:** Even in pandemics economies do not stop operating altogether. A floor or lower turning point is created by, for example:
  - Survival or autonomous consumption e.g. on food, safety and health-related purchases.
  - Borrowing or running down savings
  - Replacement investment of key capital equipment that breaks down or wears out.
  - Government spending e.g. on essential transport and education.
  - Automatic fiscal stabilisation
  - Charity e.g. food banks.
  - A reduction in imports e.g. foreign travel, new cars and other discretionary imports and sales of exports to countries overseas.
  - Market forces and enterprise, e.g. changes to fuel prices, adapted business models, a shift to working form home, on-line shopping and take-away food.
- **Shocks:** Shocks can affect aggregate demand and/or aggregate supply. A shock occurs when there is a change in an autonomous (i.e. non-price level) factor that affects aggregate demand and/or aggregate supply. The use of the work 'shock' suggests these changes are often unexpected. A shock disturbs the equilibrium in the economy. Examples of recent shocks include the pandemic, supply constraints caused by broken supply chains, the rise in food, fuel and energy prices resulting from the Russian invasion of Ukraine.

3. What happens during the recovery stage?

Aggregate demand increases	There is an overall increase in the level of aggregate expenditure (i.e. in consumption, planned investment, government spending and net exports), causing an injection of expenditure into the economy's circular flow.
A multiplier process occurs	The level of economic activity continues to rise because of the multiplier process. The multiplier process occurs because expenditure in one area generates extra incomes and these lead to further expenditure elsewhere in the economy. Business and consumer confidence rise giving further upward momentum to the economy.
The output gap decreases	The gap between actual output and potential output falls
Production increases	Businesses expand output to match the rise in aggregate demand, and, typically, employ more people and use other resources.

Productivity increases	The rise in output normally increases economic efficiency, e.g. through a more intensive use of capacity and the exploitation of economies of scale
Cyclical impacts in other areas of the economy	The pick up in the economy is transmitted to many areas of the economy such as the budget balance (more tax is paid, less welfare spending is needed) and the overseas trade balance (more goods are imported).

4. What happens in the boom stage to cause an upper turning point?

The output gap closed and may become negative.	After a while spare capacity is used up and the level of output reaches the economy's full capacity or potential level of output. Shortages of economic resources become evident, for example, a shortage of skilled workers develops and congestion or bottlenecks occur in the economy's transport infrastructure.
Automatic stabilisation	Tax revenue increases as output, incomes and expenditure increase and the need for welfare or social security payments decreases. The cyclical budget balance moves towards a surplus causing a net leakage from the economy.
Production	Economy is operating at full capacity. Labour shortages occur, especially skilled workers and wages rise.
Productivity	High, but further increases have to come from structural rather than cyclical factors.
Cyclical impacts in other areas of the economy	Trade balance may weaken as spending on imports increases. Demand-pull inflation may rises. Demand-deficient unemployment falls. Income distribution may become more uneven.
Policy response	The Reserve Bank may lift cash rates to keep inflation within its target zone of 2% to 3% inflation a year. The government may plan a contractionary budget stance.
Self-adjustment	Prices may rise in product and resource markets where demand now exceeds supply. The rise in prices may lead to a decrease in the quantity demanded and an increase in the quantity supplied. For example, wage rates may rise where there is excess labour demand and energy prices may rise.

5. What happens in a downturn?

Aggregate demand decreases	There is a fall in the level of aggregate demand causing a leakage of expenditure from the circular flow.
A negative multiplier process occurs	A negative multiplier process causes a cumulative fall in the level of economic activity. Cut backs in one area lead to cut backs in other areas. Business and consumer confidence falls giving further downward momentum to the economy.
The output gap increases	The gap between actual output and potential output increases.
Production decreases	Businesses reduce output because the fall in aggregate demand leads to an unwanted rise in their stocks or inventories. Typically, businesses employ less people and cut back on their use of other resources
Productivity decreases	The fall in output normally decreases economic efficiency, e.g. through a less intensive use of capacity and the inability to achieve economies of scale
Cyclical impacts in other areas of the economy	The slowdown in the economy impacts on other areas of the economy such as the budget balance (less tax is paid, more welfare spending is needed) and the overseas trade balance (less goods are imported).

6. What happens in a recession or slump to create a lower turning point?

Aggregate demand is low but relatively steady.	Aggregate demand has fallen during two successive quarters of negative growth. Consumers try to maintain their existing standard of living for as long as possible even if this means cutting back on saving or increasing debt. Economists have used the term 'survival consumption' to describe consumers' demand for essential products such as food, safety and health related products. Even if demand is relatively low, businesses may need to spend some money on planned investment, e.g. replacing machinery. Support from charities becomes more important.
Indicators of a recession.	• An inversion of the yield curve (i.e. when long-term interest rates are lower than short-term rates). • A rise in interest rates on high-yield debt. • Falls in equity markets. • Significant rises in unemployment, benefit claims and published vacancies.
The output gap grows	An output gap has developed with actual output less than capacity output. There is surplus labour (unemployment) and spare capacity.
Automatic stabilisation	Tax revenue decreases as output, incomes and expenditure decrease and the need for welfare or social security payments increases. The cyclical budget balance moves towards a deficit causing a net injection into the economy.
Production is low	The economy is operating well below full capacity. Supply shortages and labour constraints are rare. The participation rate may fall.
Productivity is low	It is reduced by cyclical factors, e.g. because of a loss of economies of scale
Cyclical impacts in other areas of the economy	Spending on imports decreases e.g. on travel, new cars and other discretionary imports. Demand-pull inflation falls. Demand deficiency of general unemployment rises.
Policy response	The Reserve Bank may reduce cash rates to keep inflation within its target zone of 2% to 3% inflation a year. The government may plan an expansionary budget stance with an increase in discretionary spending e.g. on infrastructure and education.
Self-adjustment	Prices may fall in product and resource markets where supply now exceeds demand. The fall in prices may lead to an increase in the quantity demanded and a decrease in the quantity supplied. For example, wage rates may fall (or workers may move to lower paid jobs or work a reduced number of hours) where there is excess labour supply and energy prices may fall.

Student Activity 7.1

1. What is the 'business cycle'? What are the typical phases or stages of the business cycle?

2. Describe why booms end and recessions start.

3. The production possibility diagrams in figure 7.3 show how the output gap changes during the course of the economic cycle.

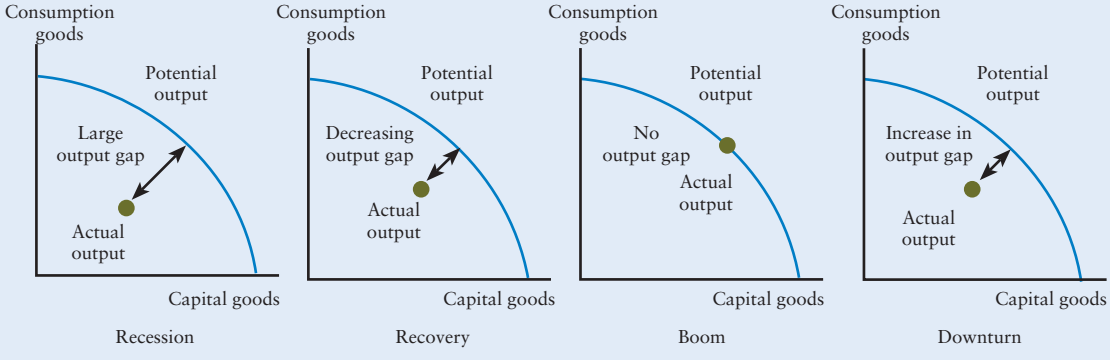


Figure 7.3

(a) Explain the meaning of the terms (i) potential output, (ii) actual output and (iii) output gap.

(b) State the phase of the economic cycle when the output gap is (i) biggest, (ii) decreasing, (iii) smallest and (iv) increasing.

7.2 THE RELATIONSHIP BETWEEN THE BUSINESS CYCLE AND ECONOMIC INDICATORS.

1. How can you tell what phase or stage an economy is in?

Data source	Examples	Indicators
Macroeconomic objectives	Growth in output. Full employment (NAIRU). Price stability. Equity in income distribution. Efficient use of resources.	GDP data. Unemployment Rate. Participation Rate. Employment to Population Rate. Payroll data. Hours worked. CPI and underlying Inflation.
Components of aggregate demand	Consumption. Investment. Government spending. Net exports.	Types of goods in stores. Consumer confidence. Empty shops. Business confidence. Cyclical budget balance. Tax revenue. Trade balance. Credit card defaults.
Features of economic models	PPC model. Keynesian Cross. AD/AS model.	Output gaps. Inflationary gaps. Recessionary gaps. Potential output or full capacity.
Policy settings	Monetary policy. Fiscal policy. Supply-side policy.	Cash rate. Structural budget balance. Spending on infrastructure.
Production and use of resources	Output. Use of resources. Population growth.	Concrete production. Electricity output. Cranes on the city skyline. Productivity.

There are lots of data published about the economy.

2. Do all these indicators show the current state of the economy?
Economists distinguish between leading or forward-looking indicators, coincident indicators and lagging or backward-looking indicators. Only coincident indicators show the current state of the economy.

Term	Definition	Example
Leading or forward-looking Indicators	They predict trends. They change before a trend in the economy becomes evident elsewhere	Building approvals Share prices Purchasing managers index (PMI)
Coincident Indicators	They move in line with the actual or current level of economic activity	GDP Retail sales Car sales
Lagging or backward-looking Indicators	They only change after the economy as changed course. They confirm what has happened to the economy.	Unemployment data Consumer debt Inflation

3. **Do indicators have to cover the whole economy to be useful?**
Data can be useful even when it refers to a relatively select or restricted aspect of economic activity. When data is combined it can help build up a reliable picture even if the scope of each piece of data is limited.

Term	Definition	Example
Partial Indicators	Data refers to a small (or microeconomic) area of economic activity	Car sales Housing approvals
General Indicators	Data refers to macroeconomic areas of the economy	GDP Retail sales

Student Activity 7.2

1. Identify one leading indicator and one lagging indicator of a recession.

2. Describe one advantage and one disadvantage of judging the state of the economy using general economic indicators, such as GDP per head or the rate of inflation, compared to using partial indicators.

3. Suppose you visit in a country overseas, and notice empty shops in their shopping malls and very little construction work taking place in their business districts. What, if anything, might you infer about the state of the business cycle in that country?

7.3 EXTERNAL INFLUENCES ON AUSTRALIA'S ECONOMIC PERFORMANCE

The performance of the Australian economy has to be viewed in the context of the performance of the global economy. The Australian economy is integrated with other global economies through trade in goods and services, through foreign investment, through migration, though information and transport technology and the spread of ideas and tastes.

Globalisation of the world economy allowed national economies to achieve higher growth, higher incomes and living standards, lifting billions of people out of poverty. Global growth was fuelled by the urbanisation and industrialisation of China and other East Asian countries, by plentiful supplies of oil and gas from a resurgent Russia, new information and transport technologies and the liberalisation of trade and financial flows, amongst other factors. Capitalism appeared to have triumphed over socialism and communism, free trade had triumphed over protectionism and liberal government had triumphed over authoritarianism.

But there were also negative aspects to globalisation. It created problems and the mechanisms through which these could be transmitted between economies. These problems included:

- The uneven distribution of the benefits both within and between economies.
- As China and East Asia became the world's factory, manufacturing jobs were lost elsewhere creating 'rustbelt' states or regions.
- As China's economy grew it extended its political influence across the Pacific and Asian regions e.g. through its 'belt and road' initiative, threatening the security of countries including Australia.
- Increased production led to increased damage to the environment and accelerated climate change.

Recently a number of separate but related crises have converged into a so-called polycrisis which has weakened the performance of the Australian economy. The crises include:

- The virus and pandemic, the origin of which was an unbalancing of the relationship between economic growth and the natural world.
- The reaction of governments to the virus and pandemic, which led to 95% of the world's economies suffering a simultaneous contraction in per capita GDP in first half of 2020, record low interest rates and expansion of the money supply, budget deficits and increased debt and increased government influence over peoples' lives.
- Disruption to trade and supply chains, caused by production and transport problems.
- The development of a new cold war involving the US and China e.g. over 5G technology.
- The invasion of Ukraine which led to a reduction in the supply of oil and gas from Russia and grain from Ukraine.
- An increase in government 'debt distress' especially in global south and sub-Saharan Africa.
- Refugee crises e.g. from the Syrian and Sudanese civil wars and from failed South American countries.
- Increased nationalism and popularism e.g. Brexit (UK's withdrawal from the EU) and support for 'America First' measures in the US.
- Increased environmental damage and climate change as a result of economic growth.

The polycrisis is more a 'grey rhino' event (something that is taken for granted but whose significance is underestimated) than a 'black swan' event (a significant unexpected and unlikely event that threatens the social and economic status quo). The polycrisis is the biggest crisis of the anthropocene age (the time during which humans have been having a substantial impact on the planet). To labour the point somewhat, pandemics (SARS and Covid) developed as a result of the interaction between wildlife, agriculture and the growing urban population across East Asia, while climate change results from increased production and consumption creating a greenhouse effect around the Earth.

The polycrisis has led to economic, social and political change and threatens the international world order. The consequences include:

- Inflation, caused by rising production and transport costs, higher wages (to maintain living standards and offset labour shortages) and excess growth in the money supply.
- Growth rates have been subdued, despite government and central bank stimulus measures.
- Labour markets have seen a fall in the working population but measures of unemployment have been low and indicate labour shortages.
- The distribution of income has become more uneven, due to the regressive impact of the pandemic, the so-called 'cost-of-living crisis' and the opportunities for wealth creation provided by government borrowing and increased liquidity.
- The strategy of 'budget repair' which aimed to reduce government debt is now on hold in Australia and elsewhere, and has been replaced with a strategy of 'economic repair'

involving increased levels of government spending on e.g. jobs support, business support and infrastructure projects).
- Monetary policy has become contractionary in order to rein in inflation rather than the previous expansionary stance adopted during the pandemic.
- Governments have become more interventionist and less market orientated.
- Most governments are now aiming to reach net-zero carbon emissions by 2050, but have yet to develop policies that will this target.

7.4 THE GROWTH OBJECTIVE

1. What is growth?
- Economic growth occurs when there is a rise in the level of output, income and expenditure in an economy over time. The economic growth rate is the percentage change in gross domestic product (GDP) over time.
- The Reserve Bank of Australia and the Australian Government aim to achieve sustained, broadly distributed, economic growth. They aim to eliminate undue peaks and troughs in the economic cycle while achieving as much growth for as long as possible, subject to maintaining an acceptable inflation rate and without causing undue damage to the environment.

2. How is growth measured?
- Gross Domestic Product (GDP) is the highest profile measure of economic growth. GDP measures the value of traded goods and services produced in an economy over a given period of time. Economic growth is the percentage change in GDP over time. GDP, as a measure of economic activity, was invented in America where the 1930's depression had exposed an urgent need for better macroeconomic data to guide policy and investment.
- There is an internationally agreed approach to measuring GDP. It is defined in the United Nations System of National Accounts (SNA). SNA was last revised in 2008 and the next revision is due in 2025.

3. Is GDP fit for purpose?
- GDP has many critics and the pursuit of GDP growth has become associated with a number of harmful or counter-productive economic developments. To be fair, GDP was never intended as a report card for economic performance but critics claim it is no longer fit for purpose as a measure of economic activity or a metric that indicates living standards or guides governments' economic policies.
- When GDP data is 'real GDP per head data', i.e. it has been adjusted to take account of the effect of inflation and changes in population size it is a better measure. It can also be adjusted to take account of changes in the terms of trade and for exchange rate levels e.g. by using purchasing power parity (PPP) exchange rates.
- Around the world (save from a few countries such as Bhutan) the value of, and changes in, a country's GDP are used as a indicator of economic success. It is often assumed that a rise in GDP makes people happier. However, incomes are seldom distributed evenly across economies, not all economic activity is included in the GDP measure and some activity that is included doesn't contribute to welfare or happiness.
- When GDP is used as a metric for economic policy decision making more problems arise. Politicians may, for example, (i) manipulate the economy so GDP growth is strong in the run up to an election, (ii) they may allow inwards foreign direct investment that boosts GDP but harms the environment, (iii) delay taking action on decarbonising the economy by supporting fossil fuel industries to avoid wasting stranded assets, (iv) set tax rates that favour certain members society more than others, and (v) spend money in a way designed to produce a quick recovery from recession rather than promote longer-term economic strength. GDP critics claim that if policy is driven by the flawed GDP indicator, materialism is fostered and problems such as environmental damage, climate change and poverty mount up.
- Many alternative indicators have been produced to create a better economic report card. First, there is the Human Development Index (HDI), produced by the United

Nations Development Program (UNDP). HDI is a composite indicator that combines incomes (as a proxy for living standards), literacy (as a proxy for education) and life expectancy (as a proxy for health standards). Second, there is the Genuine Progress Indicator (GPI) which incorporates environmental factors (such as climate change and environmental damage) and social factors (such as incidence of poverty). And thirdly, there is Gross Ecosystem Product (GEP), produced by the Stockholm Resilience Centre, which values the contribution of nature to economic activity and human wellbeing and indicates the extent to which the natural environment is being run down as countries strive to increase GDP.

Student Activity 7.3

1. Identify two examples or kinds of economic activity that are NOT included in calculations of GDP.

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_____

2. Identify two reasons why a rise in GDP might not lead to a rise living standards for some people.

_____

_____

3. Describe, using examples, why the pursuit of GDP growth could cause a government to pursue harmful or counter-productive economic programmes.

_____

_____

4. **What are the positive economic and social outcomes from growth?**
Sustained, broadly-based growth is considered to be an important macroeconomic objective because it can generate economic and social benefits for members of the population. The positive economic and social outcomes include:
   - **Higher material living standards:** An increased capacity to produce goods and services allows members of society to earn higher real incomes and raise their material standard of living, subject to population growth.
   - **Better quality goods and services and an increase in choice for consumers:** Products are likely to be better designed and more reliable. A wider choice of goods and services is available to consumers. Economic growth has has also led to longer life expectancy (e.g. cancer treatments, Covid vaccines and insulin intensive care neonatal units), freedom from poverty for millions (e.g. in China and India) and better living conditions (e.g. indoor plumbing and electricity). The list goes on.
   - **Greater employment opportunities:** Growth creates jobs and incomes for a growing population. Increasing output means increasing factor or resource inputs, including extra labour. Growth brings hope to people that their quality of life can improve.
   - **Fiscal Dividend:** Governments collect more tax revenue which allows for the provision of more public and merit goods e.g. educational and health facilities and transport infrastructure. These contribute to economic development as measured by the Human Development Index (HDI which includes measures of life expectancy, literacy, and income.

- **Equity and inclusivity:** The fiscal dividend also allows governments to create a more equitable and inclusive distribution of incomes through the income tax and transfer system within their economy and through aid and development spending internationally. Growth strengthens the fabric of society and democratic political institutions.
- **Reduced environmental footprint:** Growth can contribute to sustained, improved environmental outcomes e.g. through improved energy efficiency and better land management. Many countries have grown their GDP while shrinking their emissions (e.g. through increasing renewable energy supplies).
- **Growth creates further growth:** Growing economies enjoy a virtuous cycle where growth encourages investment, investment increases productivity and introduces new technologies, increased productivity leads to higher wages and higher wages leads to more spending and growth.

5. What are the negative economic and social outcomes resulting from growth?

However, growth can generate negative economic and social outcomes which include:

- **Environmental damage:** Increased output can lead to environmental damage through resource depletion and from increased production and consumption negative externalities. There is now greater awareness of, for example, damage to the 'global commons', climate change, rising sea levels, plastic in the oceans, poor air quality, poor soil quality, decline in fish stocks, loss of biodiversity, increased landfill and pollution (to name but a few).
- **Aspects of globalisation:** In order to achieve growth and higher productivity, firms have, for example, exposed themselves to long and complex supply chains that can fail in periods of crisis (e.g. war and the pandemic). Freedom of movement of goods, services, people and finance also allows economic problems in one economy to spread around the world.
- **Damage to social welfare:** Higher incomes can lead to increased consumption of de-merit goods which reduces social welfare, for example, excess consumption of alcohol and drugs.
- **Inequality of income and wealth:** The uneven distribution of benefits increases the levels of income and wealth inequality which can reduce social harmony and cohesion.
- **Structural change and structural unemployment:** All industries do not expand at the same rate so economies experience structural change. Indeed growth in one area, e.g. mining, may cause the decline in another area, e.g. manufacturing, through the impact on the value of the exchange rate.
- **Inflation risk:** If growth in aggregate demand exceeds growth in aggregate supply, the economy will experience capacity constraints, such as shortage of skilled labour or transport congestion and prices and wages will rise. Once inflation takes hold in can become imbedded across the economy.

6. So, growth or degrowth?

Most governments are focused on growing their economies, believing growth to be good and necessary. However, in many countries the growth rate has been slowing decade on decade since the 1970s. The remedy is seen as further supply-side reform. Whether or not trend growth of about 3.5% per year is a desirable objective for an economy depends on a number of factors including:

- **The composition or character of growth:** It depends on what industries are increasing output and by what means are they doing it. Growth in output of 'bad' goods (e.g. weapons) and goods that generate negative externalities (e.g. fossil fuels) is less desirable than growth of, say, affordable housing, healthcare and education services.
- **The distribution among the people of the benefits of growth:** It depends on whether income is distributed equitably or whether it is skewed towards the owners of capital or mates of the government.
- **The state of development and standard of living:** Growth is more important for people whose standard of living or state of development is relatively low than for people who are already comfortably off. Growth delivers real benefits to those on low incomes e.g. in life expectancy and in education. Over that, the benefits slow down, begin to diminish or even become negative as the relatively rich experience diminishing returns from extra consumption.

- **How economic progress is measured:** As previously stated, GDP is a macro-indicator of the strength of an economy, counting lots of bad things and undervaluing some good things. Broader measures, such as the Human Development index (HDI) and the Genuine Progress Indicator, and wages in middle income levels might provide better targets.

Growth has its critics even when it is inclusive and broadly distributed.

- Growth is 'the economics of never having enough' while degrowth means limiting or even reducing growth rates. Degrowth broadly means shrinking rather than growing economies to use less of the world's dwindling resources.
- The degrowth debate has accelerated because of an increased awareness of damage caused by climate change, and the fact that the global population topped 8 billion in Nov. 2022. Degrowth supporters worry that a never ending appetite for economic growth will see global collapse because the earth's natural balance isn't compatible with a largely capitalist economic system pursuing relentless economic growth. A different kind of economic structure is needed for an ecologically constrained world. If economic growth continues to be the default objective, it will lead to climate catastrophe, the argument goes, with no hope of limiting global warming to 1.5 degrees C by 2050.
- Degrowth is more about reducing energy and resource use than reducing GDP. It involves a planned transition rather than a recession. Supporters argue it doesn't mean 'living in caves with candles' but just living a bit more simply and would need a different solution in every economy.

Student Activity 7.4

1. Describe three important ways Australian's benefit from a period of sustained economic growth.

2. Describe three problems or issues for Australian's that are associated with the pursuit of growth.

3. Assess whether the pursuit of sustained growth in the Australian economy is appropriate.

7. **What policies promote growth?**

- An increase in aggregate demand and a corresponding increase in aggregate supply is needed for sustained economic growth.
- Aggregate demand is the sum of consumption (C), planned investment (Ip), government expenditure (G1 and G2) and net exports (X-M) in a given period of time. The contribution of each separate component to aggregate demand will vary from time to time.
- Aggregate supply is the sum of all the goods and services produced in the economy in a given period of time.
- The so called 3P's that promote growth in aggregate supply are people (or population growth), participation (the number of people who participate in economic activity) and productivity (e.g. output per hour of labour input).
- Factors that contribute to productivity growth are described in Chapter 14. They include:
  - **Education and training:** Australia's performance in international comparisons of educational standards has been relatively poor.
  - **Capital deepening:** Investment in the private sector has been held back by low confidence, excessive government regulation and an over-valued dollar.
  - **Infrastructure investment:** The public and private sectors have invested in, for example, transport and communications infrastructure.

8. **What is the growth performance in Australia over last 10 years?**

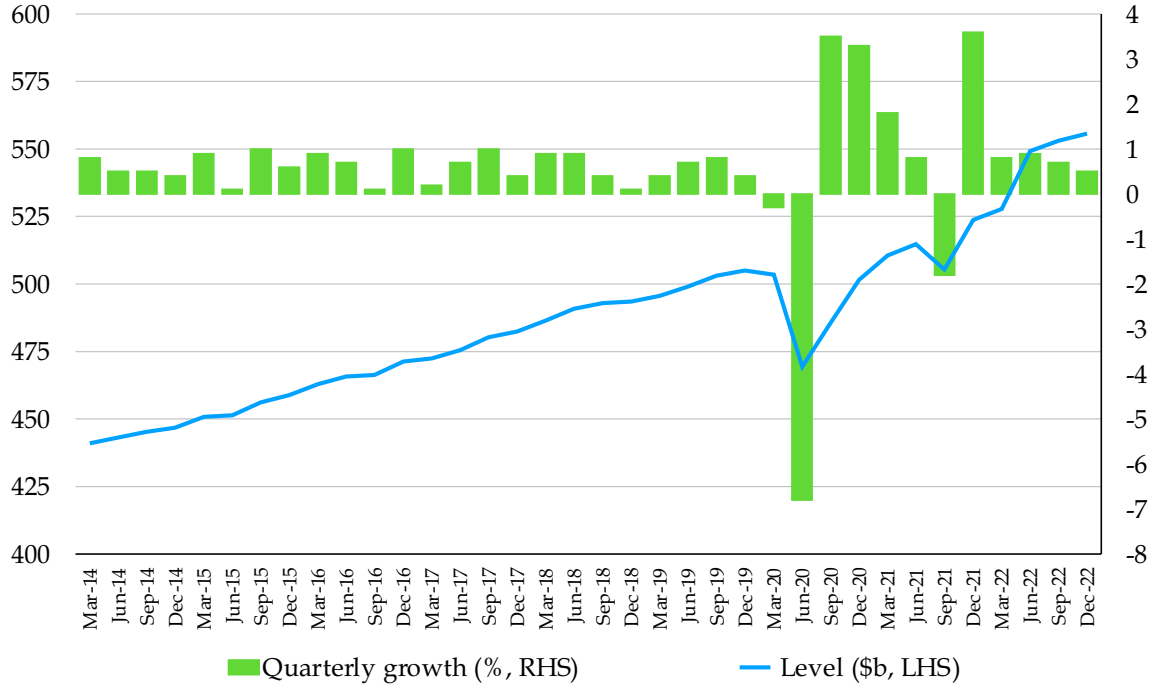

Figure 7.4: Data Source ABS

Trend growth rates over the last ten years have been affected by (i) the slow growth trap, (ii) scarring from the Covid recession, (iii) slower global growth and a rise in tension between the US and China, (iv) the ageing of the population and (v) climate change. The slow growth trap developed after the global financial crisis in 2008–09. The low-growth trap is a model that shows how these structural economic factors form a self-reinforcing chain or sequence that perpetuates slower or below trend rates of economic growth. The diagram shows some of the possible connections between the five main structural factors. In the real world the interaction is complex and might operate in either direction or jump between factors.

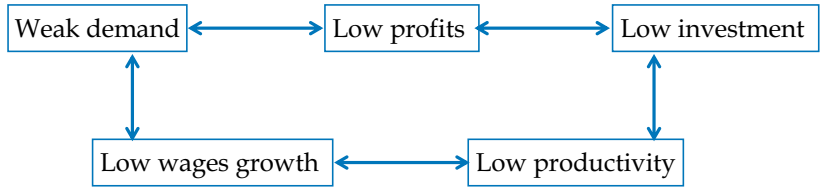

Figure 7.5: The low growth trap

Student Activity 7.5

1. (i) Assess the growth performance of the Australian economy over the last 10 years.

(ii) Identify three factors that have affected the rate of growth.

2. Explain how an economy can become trapped in a low-growth cycle. Describe how the economy can escape from the low-growth cycle.

7.5 PRICE STABILITY

1. **What is the objective?**
The RBA aims to keep inflation within a 2% to 3% per year band on average over the cycle.

2. **How is inflation measured?**
Inflation is the percentage change in the Consumer Price Index (CPI). This is known as the 'headline rate' of inflation and it is a reasonable proxy measure of changes in the cost of living. The 'underlying rate' of inflation is basically the headline rate with price changes of 'volatile' items and 'outliers' left out of the calculation. Other inflation rates are also calculated, for example, the GDP deflator index measures the change in the price level of items produced in the economy.

3. **What are the main issues with measuring inflation?**
Issues that arise in measuring and interpreting the rate of inflation include:
- It is an average measure. The pattern of spending of individual people or specific households will not be the same as the average or typical pattern.
- Collecting price data is a complicated process and data collection errors can occur.
- It is a lagging indicator as it provides information about how the economy has been performing rather than is currently performing.
- It is difficult to account for quality improvements. The quality of some products, such as electrical goods, computers, phones and cars, has risen over time without a corresponding rise in their price. Some producers reduce the size and/or quality of

their products to avoid changing the price of their products. This practice is known as 'shrinkflation'.
- People can avoid some price changes by shopping around e.g. changing the brands they buy.
- It only measures inflation in metropolitan areas. The level of prices in regional and remote areas is likely to be higher.
- Inflation is a measure of the change in the cost of living but not the standard of living as it doesn't include changes in incomes, taxation or transfers.

4. Has the RBA met the inflation target?

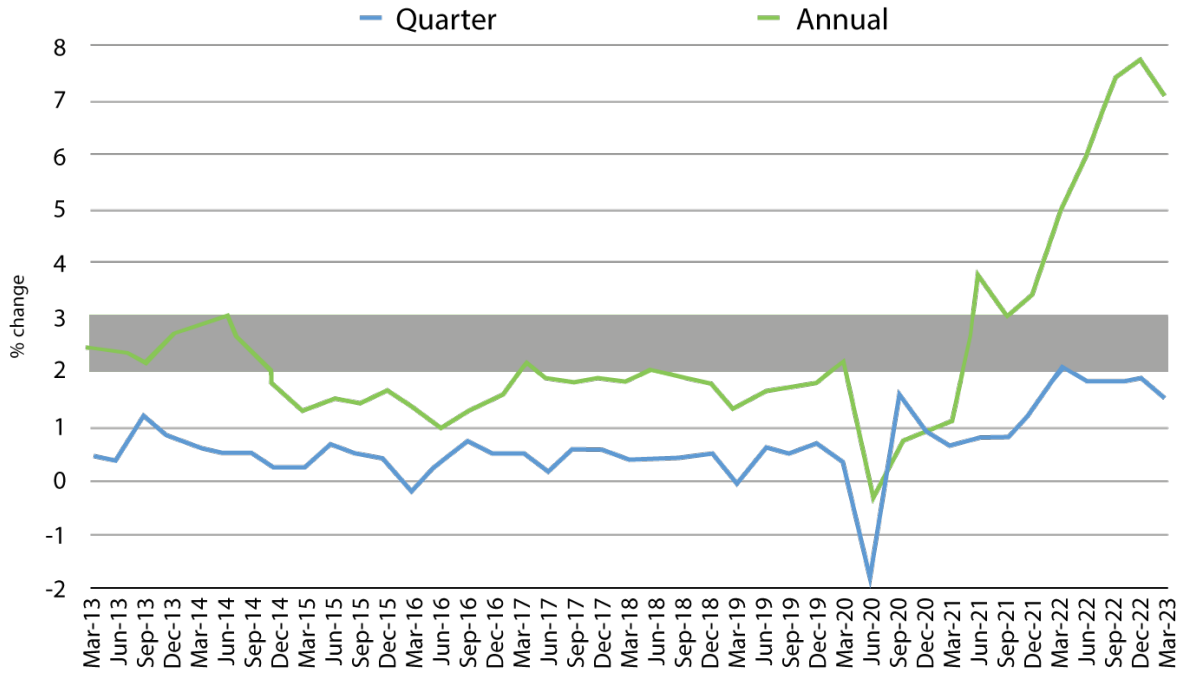

Figure 7.6: Data source ABS

The 2010's were an era of low inflation. Some commentators believed inflation had died and central banks had developed monetary policy measures designed to lock in a low rate of inflation. They were helped by a number of supply-side (non-cyclical) factors, linked to the process of globalisation, including:
- A more efficient allocation of resources as economies specialised according to the pattern of comparative advantage, especially as China and other east Asian economies developed their manufacturing capacity and became the 'world's factory'.
- Dynamic gains caused by, for example, an increase in international competition and in economies of scale.
- A slower growth in wages caused by increased labour mobility.
- The development and spread of technology (e.g. in transportation, information sharing and production).

However, in the early 2020's inflation returned and many advanced economies experienced their highest rate of inflation for over 40 years. Factors behind the return of inflation and the associated 'cost-of-living crisis' included:
- Russia's invasion of Ukraine and the impact this had on the prices of energy, wheat, and fertiliser.
- The legacy of the pandemic e.g. through damaged supply chains (e.g. fall in the production of microprocessors, shortage of containers, port and factory closures) and a fall in labour participation.
- The development of wage-price spirals
- The strength of the US dollar
- Failure of the central banks to control or head off the spike in inflation and squeeze on the cost of living by keeping their monetary policy stance too lax for too long. At the same time Governments' fiscal stimulus and income support measures were neither properly targeted nor withdrawn quickly enough. The combined impact was

(i) a rapid expansion of liquidity and debt, (ii) a rise in the money supply, (iii) a rise in commodity prices, (iv) a rise in asset prices (e.g. house prices) and (v) a surge in household spending as pandemic restrictions were withdrawn.

5. **What causes inflation?**
There are three main causes of inflation, (i) demand pull (caused by a rise in aggregate demand), (ii) cost push (caused by increased unit production costs and wages growth) and (iii) excess growth of the money supply. Demand pull inflation is cyclical, but cost push and monetary inflation are structural. Inflation can be caused by inflationary expectations as these may feed into the wage setting process.

6. **Why does it matter if inflation is above the target?**
Inflation is thought to harm economic performance, other things being equal, because it:
- reduces real incomes and causes a 'cost of living squeeze'.
- reduces consumption expenditure, which is the biggest component of aggregate demand.
- arbitrarily redistributes incomes because different prices rise by different levels and different households spend their money in different ways.
- causes inefficiency because households and firms have to spend time and resources adapting to changing prices (e.g. they incur 'menu costs' or 'shoe-leather' costs).
- reduces international competitiveness if domestic inflation is higher than inflation overseas.
- increases the likelihood of higher inflation in the future, as higher inflation becomes entrenched in the economy (e.g. by the creation of wage-price spirals and raised wage rise expectations).

7. **Why does to matter if inflation is below the target?**
If inflation falls below the 2% to 3% target band there is an increased possibility of the economy slipping into deflation, i.e. falling prices. Deflation harms economic performance by:
- increasing the real value of debts.
- causing households to postpone consumption while they wait for prices to fall.
- reducing profits and firms' ability and willingness to undertake investment spending.

Student Activity 7.6

1. With the help of the data in figure 7.6, answer the following questions.
   (a) To what extent has the RBA been successful in keeping inflation within the target range over the last ten years? Why did inflation move out of the target band during this period?

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_____

   (b) Comparing the growth in prices and wages, describe what has happened to the standard of living of the average Australian household over the last ten years?

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_____

(c) Comment on the 2% to 3% target range. Should it be a single figure (e.g. 2.5%)? Why isn't it 0%?Should it be a wider range (e.g. 2% to 5%)?

7.6 THE FULL-EMPLOYMENT OBJECTIVE

1. What is the policy objective?

- Full employment doesn't mean zero unemployment. Full employment is considered to exist when there is zero cyclical unemployment. Unemployment is at the natural rate if there is no cyclical unemployment. However, there will still be some structural, frictional, real wage and residual unemployment. The level of GDP or income associated with full employment is said to be potential GDP or full employment income.
- The non-accelerating inflation rate of unemployment (NAIRU) as the name suggests is the lowest level of unemployment before inflation starts to accelerate. NAIRU is linked to the simple Phillips Curve relationship that suggests there is an inverse relationship or trade-off between lower unemployment and higher inflation (or higher unemployment and lower inflation). In theory, if the economy has a level of unemployment below the natural or NAIRU rate inflation will accelerate. The actual level of NAIRU is a matter of debate, with the current consensus rate being close to 4%.

2. How is unemployment measured?

- **Unemployment:** To be officially unemployed people have to be in the labour force and done less than 1 hour paid work during the survey week. To be in the labour force people have to be over 15 years old, actively looking for work and capable of starting work in the immediate future. The labour force, therefore, includes people over 15 who are employed or officially unemployed.
- **The rate of unemployment:** The unemployment rate is the percentage of the labour force that is unemployed.
- **The participation rate:** The participation rate is the percentage of people of working age (over 15) who are in the labour force.
- **The employment to population ratio:** The employment to population ratio is calculated by dividing the number of people in employment with the working-age population.
- Unemployment tends to be counter-cyclical, i.e. the unemployment rate rises as the level of growth falls.

3. What are the main causes and types of unemployment?

- **Demand deficient, general or cyclical unemployment:** This is unemployment that is occurs when the equilibrium level of economic activity is below the level of potential GDP or below the full-employment income level.
- **Frictional unemployment:** This includes people who are temporarily unemployed because they are in transition from one job to another. It happens as a result of time lags in the functioning of labour markets.
- **Real wage (or classical) unemployment:** This occurs when wage levels (or labour costs) are higher than the market-clearance rate. Minimum wage rates may be set above market equilibrium by the Government (Fair Pay Australia) or as a result of union monopoly power in the labour market.
- **Structural unemployment:** This occurs when skill, age, location and other personal characteristics of the jobless don't match the characteristics demanded by employers.
- **Residual or hard-core unemployment:** This is unemployment caused by peoples' inability or unwillingness to work. Note, to be officially unemployed these people would need to prove they were in the labour force.

4. Has the full employment objective been achieved?

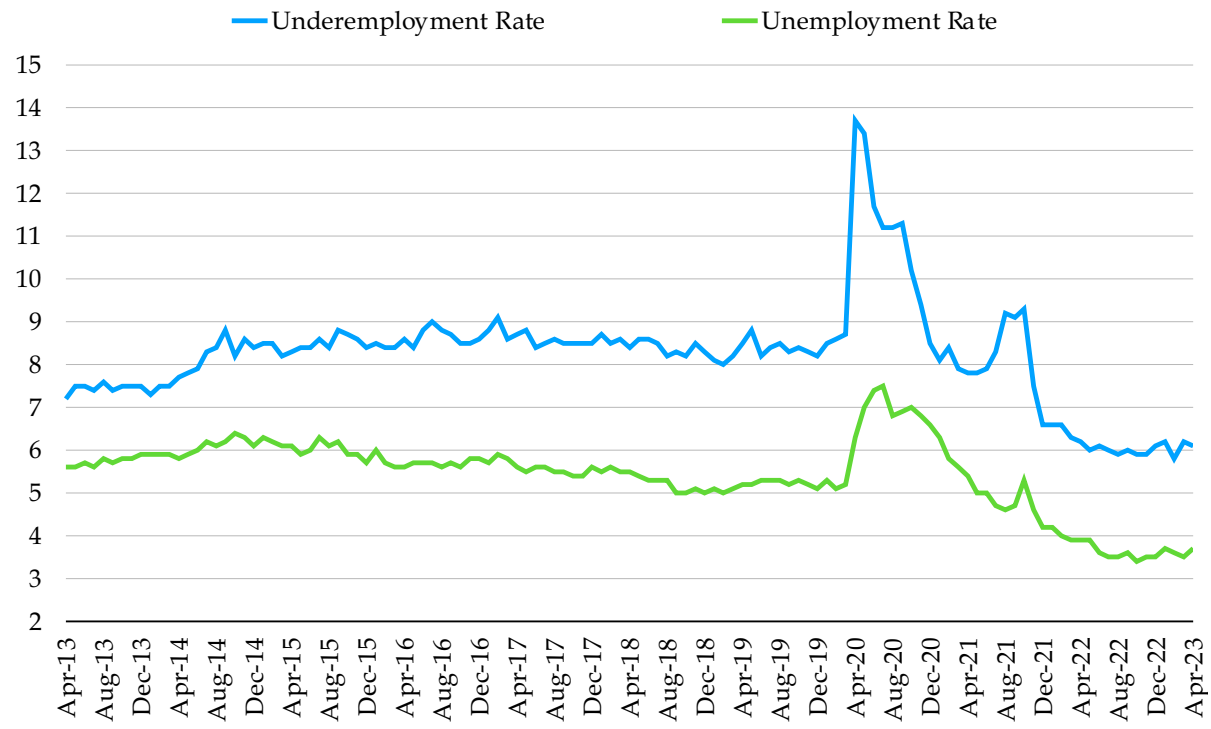


Figure 7.7: Data Source: ABS

5. What are the economic and social costs of unemployment?

Economic costs

- Unemployment represents a waste of some the economy's scarce resources. The loss of the extra output that could have been produced if all of the labour force was employed involves a significant opportunity cost.
- Unemployed workers may experience skills atrophy and scarring. Workers may lose their work skills if they don't use them on a regular basis.
- The government experiences a loss of tax revenue and increased spending on welfare and social security. There may also be a rise in demand on government services such as health care, law and order and vocational training.

Social costs

- Society may become less harmonious as the distribution of income and wealth in the economy becomes more uneven. Society as a whole may experience a rise in crime and vandalism.
- Members of society may feel that it is morally or ethically unacceptable to deny people the opportunity to participate in society on an equitable basis.
- Unemployment directly affects members of society on an individual basis. Although the consequences of unemployment will depend on individual circumstances e.g. age, reason for unemployment, length of time unemployed, whether or not other family members are unemployed, chance of re-employment and level of savings, people who are unemployed may experience:
  - Loss of income and increased poverty: Government transfers are lower than most wages.
  - Loss of self-esteem: Reduced self-confidence and self-worth.
  - Poorer health or depression: Greater stress and reduced nutrition levels.
  - Boredom and loss of purpose: Too much involuntary leisure increases unhappiness.
  - Family breakdown and loss of friends.
  - Higher risk of suicide

6. What are the consequences of an unemployment rate below NAIRU?

If unemployment is below the NAIRU rate there is likely to be:

- wage inflation if wage increases are not linked to productivity or efficiency gains.

- labour and skills shortages which makes it difficult for employers to find new employees.
- an increase in job switching (or frictional unemployment) which disrupts production.
- moral hazard (guaranteed full employment might make people slack and inefficient).

Student Activity 7.7

1. With the help of the data in figure 7.7, answer the following questions.
   (a) To what extent has the unemployment rate been close to the NAIRU target over the last ten years? Why did unemployment move away from the NAIRU rate during this period?

   (b) Describe three economic and three social reasons for keeping unemployment close to NAIRU.

   (c) Explain what data other than the rate of unemployment is needed to get an accurate picture of the state of the labour market?

7.7 THE EQUITABLE INCOME DISTRIBUTION OBJECTIVE

1. What is the income distribution policy objective?

The government aims to make the distribution of income more even than the distribution of income that would occur in a free market economy. The Government's aim is to balance economic growth (efficiency) with distributive justice (equity). Australia's has a reputation as a prosperous and egalitarian nation and for giving everyone a fair go. The tax and transfer systems provide the mechanism for this income distribution.

- Incomes provide the rewards and incentives that drive market economies. They reflect a worker's value to their employer's business or the return they generate for their own business. This is known in economics as their marginal revenue product.
- The level of incomes also determines the material standard of living of the people in a household. Income impacts on peoples' ability to satisfy basic physiological needs and wants as well as their need for some quality of life, dignity and respect. Their ability to influence the pattern of output through their spending is related to their income.

2. **How is income distribution measured?**

The Gini-coefficient: The Gini-coefficient is a measure that indicates the degree of curvature or concavity of a Lorenz Curve. A Lorenz Curve shows the percentage of income received by different sections of the population. The Gini-coefficient is the ratio of the area between the line of equality and the curve and the area of the whole triangle below the line of equality.

Palma ratio: This ratio is the share of income of the richest 10% of the population's divided by the share of the poorest 40%.

3. **How does income redistribution take place?**

There are a number of steps in the process of income redistribution.

- Market income (or private income) can be earned income from work or unearned income in the form of rent, interest or dividends.
- Some pay rates are influenced by minimum wages or awards rather than by free negotiations between employer and employee. In Australia, for example, the minimum wage is set by Fair Pay Australia and is altered from time to time.
- Eligible people may receive transfers from the government in the form of pensions or benefits if they are unemployed, over pension age or have young families.
- Income, after an allowance for transfers, is known as gross income. Households pay income tax on their gross income. The income that remains after payment of direct tax is known as disposable income. The Australian income tax system is progressive, meaning that people on higher incomes are taxed at a proportionately higher rate than people on low incomes.
- The final purchasing power or value of households' income is subject to two further adjustments. Firstly, the government provides a number of things at no or low cost to households, for example, government schooling, healthcare through Medicare, use of most roads, libraries and so on. The value of these products can be considered to be a form of social wage and in effect raises the purchasing power of peoples' disposable incomes.
- Finally, the government also collects revenue from indirect taxes like GST and excise duty. These taxes are levied when people spend money or undertake certain activities. These indirect taxes reduce the purchasing power of disposable incomes.

4. **Has the distribution of income in Australia changed over time?**

In 2021-22, Australia's Gini-coefficient before redistribution was about 0.47 but after redistribution (i.e. for disposable income) was about 0.33. Over the last 25 years or so the coefficient for disposable income has varied between 0.29 and 0.34. It tends to increase during the recovery stages of the cycle as different sectors and different income groups prosper more than others. Recoveries can be described as 'K' shaped – the upward sloping part of the K representing people who do well during the recovery and the downward sloping part representing those that fall behind. The Gini-coefficient will also change when the level of direct taxes and transfers change. Australia's Gini-coefficient is in the middle range of OECD countries, for example the US is about 0.38 and the UK is about 0.36 while in Germany it is about 0.28 and in Denmark it is about 0.25.

5. **Has there been a change in the distribution of national income between capital and labour?**

Over the past two decades or so, there has been an increase in the share of national income going to the owners of capital compared to the share going to labour. Ideally the target band for growth in wages should be for same as the target band for inflation. If nominal wages growth is below the rate of inflation it leads to:

- a reduction in real incomes, a fall in material living standards and a cost of living squeeze with households having to choose between running down their savings or reducing levels of consumption.
- slower economic growth because consumption spending is the biggest component of Aggregate Expenditure.

- a change in the distribution of real incomes, because low income households spend a bigger proportion of their income on essentials, and the prices of essentials tends to rise more than the prices of discretionary products.

On the other hand if nominal wages increase at a rate greater than inflation, economies can enter into an inflationary spiral of continuously higher wages and product prices. The Reserve Bank considers wages growth (as measured by the Wages-Price Index or WPI) to be as important as prices growth or inflation (as measured by the Consumer Price Index (CPI) or underlying inflation measures such as the trimmed mean) in determining its monetary policy stance.

6. What are the advantages and disadvantages of income redistribution?

The distribution of incomes generated by a market economy may, in society's view, be unfair or inequitable. For example, people may feel that nurses receive unfairly low incomes and TV personalities receive unnecessarily high incomes. It is argued that a fair income distribution leads to a more harmonious society. However, too much redistribution can lead to:

- Welfare dependency, a state in which a person or household is reliant on government welfare benefits for their income for a prolonged period of time.
- Moral hazard where people may behave in a reckless way when they can rely on the State to protect them if things go wrong.
- Lack of reward and incentive where people think, as much of their income will be taxed away, that it is not worth seeking promotion or changing employer.

Student Activity 7.8

1. Describe the changes in income distribution in Australia over the last ten years. Has the distribution become more or less equal?

_____

_____

_____

2. Discuss why income distribution is important. What problems arise if sections of society think the distribution of income is unfair?

_____

_____

_____

7.9 ENVIRONMENTAL SUSTAINABILITY

1. What is Australia's carbon emissions target?

Australia announced it would set a target of reaching net zero carbon emissions by 2050 just before the November 2021 UN COP26 climate change conference in Glasgow. It also kept its previously announced target of achieving a 26% to 28% reduction of carbon emissions compared to 2005 levels by 2030. The Australian Government claims it has already achieved a 20% reduction from 2005 levels, partially due to the impact of the Covid-19 lockdowns, and is performing better than Canada and NZ. The world, however, still links Australia with climate laggards such as Saudi Arabia and Russia.

2. **How will Australia decarbonise the economy?**
   - According to the government, the net carbon reduction targets will be achieved through 'technology not taxes', including investment in low emissions technology such as carbon capture, green energy sources such as solar, wind and wave energy and electrification of transport systems but excluding the introduction of carbon taxes.
   - The government also wants to strike a balance between action on climate change, continued economic growth and limiting structural change. Australia is a significant producer and exporter of fossil fuels, for example Australia is the world's second biggest coal exporter (behind Indonesia). Coal exports totalled A$55b in 2020–21, with sales mostly to Japan, South Korea and China (all of which are committed to achieving net zero by 2050). Coal is also used to produce most of Australia's electricity and supports about 40,000 jobs, mostly in regional areas. The government supports the coal industry by approving foreign investment proposals to establish new mines and through fuel tax subsidies.
   - However, the environment is a common access resource and needs collective international action to be effective (e.g. China and India have to be on board).

3. **What, if anything, is controversial about aiming to decarbonise the economy?**
   - Generational equity: It isn't ethical or fair on future generations to allow global warming to continue at its present rate.
   - Action on climate change will avoid some of the costs caused by, for example, climate change and resource depletion.
   - In the short run action on climate change may reduce growth in some areas of the economy (e.g. the coal industry) and lead to structural change.

Student Activity 7.9

1. Discuss the short-run and longer-term impact on the macroeconomic objective of decarbonising the economy.

SO YOU THINK YOU UNDERSTAND MACROECONOMIC PERFORMANCE AND THE BUSINESS CYCLE	
Key words in definition of business cycle 1 2 **Stages in a typical business cycle**	**Six policy objectives** 1 2 3 4 5 6
Four features of the business cycle 1 2 3 4	**Indicators of a boom** 1 2 3 4 5 6
Four causes of upper turning points 1 2 3 4	**Indicators of a downturn** 1 2 3 4 5 6
Three causes of lower turning points 1 2 3	**Indicators of a slump or recession** 1 2 3 4 5 6
Three causes of lower turning points 1 2 3	**Indicators of recovery** 1 2 3 4 5 6
Cumulative processes 1 2 3	**Four advantages of growth** 1 2 3 4
Types of indicators 1 2 3 4 5	**Four problems with growth** 1 2 3 4

SO YOU THINK YOU UNDERSTAND MACROECONOMIC PERFORMANCE AND THE BUSINESS CYCLE	
Policy response 1 2 3	**Growth performance**
Advantages of an equitable income distribution 1 2 3	**Four advantages of price stability** 1 2 3 4
Issues with too much income distribution 1 2 3	**Three issues with price stability** 1 2 3
Income distribution performance	**Inflation performance**
Objectives in conflict (with no shift in AS) 1 2 3 **Complementary objectives (stable AS)** 1 2 3	**Costs of unemployment** 1 2 3 4
Five problems of economic management 1 2 3 4 5	**Costs of full employment** 1 2 3
Two main types of time lag and examples 1 2	**Unemployment performance**
Environmental sustainability objective 1 2	**Environmental sustainability issues** 1 2 3

TEST YOUR KNOWLEDGE

Macroeconomic Performance and The Business Cycle
Multiple-Choice Questions

1. In which stage of the business cycle is the size of the output gap biggest?
   (a) Boom
   (b) Downturn
   (c) Slump
   (d) Recovery

2. In the business cycle model what stage or phase comes after a recovery?
   (a) A boom
   (b) A recession
   (c) A slump or trough
   (d) It depends on the economic situation

3. Which one of the following is LEAST likely to be a feature of a recession?
   (a) More empty shops in shopping centres
   (b) More people contacting Centrelink
   (c) Firms producing more up-market or luxury versions of their products
   (d) Low levels of consumer and business confidence

4. Which one of the following contributes to a floor or lower turning point in an economy?
   (a) Survival investment spending by producers
   (b) Increased tax collection by the government
   (c) A shortage of skilled labour
   (d) Spending by the government on welfare and social security

5. Which one of the following is a leading indicator of economic activity?
   (a) Changes in Gross Domestic Product
   (b) Changes in the unemployment rate
   (c) Changes in the Purchasing Managers' Index
   (d) Changes in retail sales

6. Which of the following is NOT a policy objective of the Reserve Bank of Australia?
   (a) Achieve low inflation
   (b) Achieve low unemployment
   (c) Achieve an equal income distribution
   (d) Achieve sustained economic growth

7. Which of the following is most likely to occur when growth is 'below trend'?
   (a) Rising employment and rising interest rates
   (b) Improved business expectations and a rise in planned investment
   (c) Low inflation and rising unemployment
   (d) Deflation and a move towards a budget surplus

8. If in an economy's economic indicators show (i) a fall in concrete production, (ii) a fall in the volume of imports, and (iii) a rise in cyclical unemployment, growth in the economy is
   (a) Above its trend level
   (b) Falling
   (c) At an equilibrium or 'trend growth' rate
   (d) Rising towards the potential growth rate

9. Which of the following identifies two groups that both suffer when an economy experiences inflation?
   (a) Debtors and consumers
   (b) People on fixed incomes and creditors
   (c) Debtors and speculators
   (d) Exporters and debtors

10. Which one of the following statements is true?
   (a) Cyclical unemployment can never be zero
   (b) Frictional and structural unemployment are unlikely to be reduced by increasing aggregate demand
   (c) Real wage or classical unemployment will fall if there is an increase in the minimum wage
   (d) The term 'disguised unemployment' refers to people who leave the workforce because they become discouraged about finding work.

AGGREGATE EXPENDITURE

8

SYLLABUS CHECKPOINTS

- ☐ The factors affecting each of the components of Aggregate Expenditure.
  $AE = C + I + G + (X - M)$
- ☐ The relationship between the consumption function, the marginal propensity to consume and the marginal propensity to save
- ☐ The Aggregate Expenditure (AE) model
- ☐ The concept of macroeconomic equilibrium, including the role of inventories.
- ☐ The concept of the multiplier.
- ☐ The multiplier process using the Aggregate Expenditure (AE) model
- ☐ The impact of changes in the components of aggregate expenditure on the equilibrium level of income/output using the AE model.

ESSENTIAL GUIDE TO AGGREGATE EXPENDITURE	
1	Aggregate expenditure is the sum of consumption, planned investment, government spending and net exports in the economy over a period of time. The economy is in equilibrium when aggregate expenditure and income are equal.
2	Consumption is household spending on goods and services. It is the biggest component of aggregate expenditure (normally about 55%) and it is relatively stable. Factors that affect consumption include the level of income, the rate of interest, the level of wealth or debt and the level of consumer confidence. The level of income is considered the most important of these factors. The consumption function shows how consumption changes with income. The gradient of the consumption function shows the marginal propensity to consume (i.e. the extra consumption undertaken as a result of receiving extra income).
3	Planned investment is spending on capital or producer goods. It contributes between 15% and 20% to aggregate expenditure but is relatively unstable. Factors that affect planned investment include the real rate of interest, business confidence and expectations, profitability, rates of return and government regulations.
4	Government spending is a relative stable component of aggregate expenditure, normally contributing about 25% of the total. The proportion rose, however, to about 30% during the pandemic and recession in 2020–21. Government spending has a cyclical and structural element.
5	Net exports (or export revenue minus import payments or trade balance) make up the remainder of aggregate expenditure. It is a relatively unstable component of aggregate expenditure. The level of net exports depends on structural, cyclical and shock factors.
6	The aggregate expenditure model is also known as the Keynesian Cross model. The aggregate expenditure function shows the level of expenditure at each level of income. A 45-degree line (showing points where income and expenditure are equal) is added to the model to help indicate the equilibrium income level.
7	The shape of the aggregate expenditure function is determined by the gradient of the consumption function or marginal propensity to consume because the model assumes that the other components of aggregate expenditure are independent of the level of income.
8	A change in the value of one of the components of aggregate expenditure, other things being equal, will lead to a bigger overall change in the level of economic activity due the multiplier process. The multiplier process happens because one person's spending creates income for other people and, in turn, their extra income leads to further spending.
9	The strength of the multiplier process depends on the proportion of extra income that is passed on as spending within the economy, i.e. the marginal propensity to consume home produced goods and services.
10	The multiplier is important because it helps explain the recovery and downturn phases in the business cycle. The strength of the multiplier process in the real world is a matter of debate amongst economists. Keynesian economists think the government spending multiplier is quite powerful, in the short run anyway, but neo-classical economists think it is quite weak and might even be negative.

8.1 AGGREGATE EXPENDITURE (AE)

1. What are the components of aggregate expenditure?

Consumption (C)	Spending by households on goods and services, such as electrical goods and travel
Planned investment (Ip)	Spending on capital goods such as machinery, equipment and buildings
Government Expenditure (G1 + G2)	Government spending can be divided into current spending (G1) (e.g. wages and energy use) and capital spending (G2) (e.g. transport infrastructure and public buildings).
Net exports (NX or (X – M))	Value of Exports (X), such as iron ore, minus value of imports (M), such as cars

2. What is the formula for aggregate expenditure?
Aggregate expenditure (AE) = C + Ip + G1 + G2 + (X – M).

3. Why is the level of aggregate expenditure important?
The level of aggregate expenditure is an important factor in determining the level of output and income in the economy and hence peoples' material standard of living.

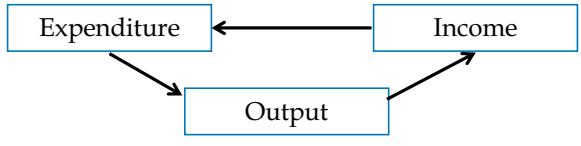


Figure 8.1: A circular flow

4. What are the features of the aggregate expenditure model?

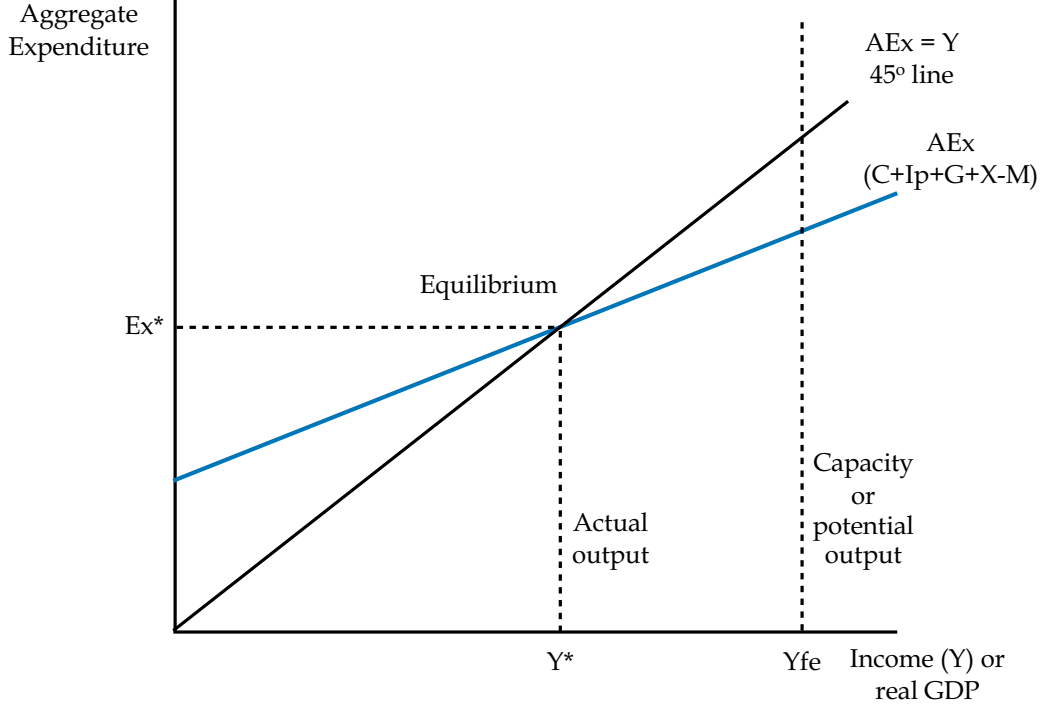


Figure 8.2: Aggregate expenditure function

The model has the following key features:

Axes	Y axis (dependent variable) = Aggregate expenditure. X axis (independent variable) = Income or real GDP (or output).
AEx function	It shows total expenditures at each level of real income. Aggregate expenditure = consumption (C) + planned investment (Ip) + government spending (G1 + G2) + net exports (X – M).
Y = Ex line	45 degree line showing potential equilibrium points.
Equilibrium income	Y* is at the level of income where aggregate expenditure = income (i.e. the income level where the two lines cross).
Capacity or full employment output	Yfe indicates the level of income when the economy operates at full capacity. The difference between Y* and Yfe is a positive output gap.
Key assumption 1	Only consumption varies with income. Planned investment, government spending and net exports are assumed to be independent of income. This is an unrealistic assumption, unlikely to hold true in the real world.
Key assumption 2	It is possible for the economy to become stuck at a level of income below the full employment level of income because wages and prices are 'sticky' and, therefore, fail to clear product and resource markets.
Key assumption 3	Changes in the price level are not considered to be important in determining the level of economic activity.

At income levels below Y* aggregate expenditure is higher than output. Producers have an incentive to increase output because there is unmet demand. At income levels above Y* aggregate expenditure is less than output and stocks of unsold goods build up.

Student Activity 8.1

1. In this area of economics, what do the following stand for?

	Letter	Stands for		Letter	Stands for
(a)	C		(d)	X	
(b)	Ip		(e)	M	
(c)	G		(f)	AE	

2. Classify the following examples of expenditure.

(a)	Purchase of a new surf board by an Australian household	
(b)	Purchase of a factory by an Australian business	
(c)	Purchase of a military vehicle by the Australian Army	

(d)	Purchase in Indonesia of car components made in Australia	
(e)	Purchase of a car made in South Africa by an Australian household	

3. What are the components of aggregate expenditure?

4. When, according to the Aggregate Expenditure model, will the economy be in equilibrium?

5. What information does the 45-degree line provide in this model?

6. How does this model show performance on the following macroeconomic objectives?

	Objective	How does the model indicate this?
(a)	Growth	
(b)	Full employment	
(c)	Price stability	

7. Sketch an Aggregate Expenditure diagram showing equilibrium income a little below full employment. Show what happens when there is a fall in one or more components of aggregate expenditure. Explain why the equilibrium level of income falls.

Diagram for Question 7

8. Sketch an Aggregate Expenditure diagram showing equilibrium income some way below full employment. Show what happens when there is a rise in one or more components of aggregate expenditure. Explain why the equilibrium level of income rises.

Diagram for Question 8

9. Describe how the model can be used to show the impact of the following events on the level of economic activity (other things being equal).

		Impact on aggregate expenditure	Impact of economic activity
(a)	A fall in mining investment		
(b)	A rise in the level of household saving		
(c)	A fall in the rate of economic growth in China		
(d)	An increase in government spending on infrastructure		
(e)	A rise in the level of consumer confidence		
(f)	A fall in the exchange rate value of the Australian Dollar		

8.2 CONSUMPTION EXPENDITURE (C)

1. What is consumption expenditure?

- Consumption expenditure is spending by households on goods and services, such as electrical goods and travel.
- In normal circumstances consumption is a relatively stable component of aggregate expenditure accounting for about 55% of the total.

2. What are the sub-categories of consumption?

- **Goods and services:** Goods (things you can drop on your foot or load on to a ship) such as food and electrical equipment, and services (things that can't be dropped on your foot or loaded onto a ship) such as education, health, recreation and legal services).
- **Durable and non-durable products:** Durable or multiple use products can be used over time or on several occasions (e.g. white goods, furniture and cars), while non-durable or single use products are consumed after one use (e.g. food and entertainment).
- **Autonomous and discretionary consumption:** Spending on essential items that satisfy basic needs (e.g. food, clothing, energy, health) is described as autonomous consumption (and sometimes is referred to as survival consumption) and spending on purchases that satisfy higher order needs and can be postponed (e.g. a night out with friends or overseas travel) is described as discretionary consumption. Discretionary consumption is a relatively unstable component of total consumption and has a stronger, positive relationship with the level of income.

3. What factors determine the level of consumption expenditure?

- **Disposable income:** In general, the more after-tax income received by a household the more consumption spending they will do.
- **Household savings:** Households undertake precautionary saving to meet unknown future spending needs, transitionary saving to pay for known future spending needs, and speculative saving to build up incomes and wealth.
- **Interest Rates:** The higher the rate of interest the bigger the reward for saving and the opportunity cost of spending. Higher interest rates make it more expensive to finance consumption purchases using credit.
- **Inflation and deflation:** The higher the rate of inflation, the more expensive it becomes to delay purchases. If prices are expected to fall (deflation) households may postpone spending.
- **Wealth and debt:** Consumption is directly related to changes in net wealth. If household wealth increases, for example, because of a rise in share or property prices, consumption expenditure tends to increase. An increase in debt may cause households to reduce consumption. Wealthier households consume more than less wealthy or debtor households.
- **Expectations and consumer confidence:** The higher the level of consumer expectations or confidence the higher the level of consumption. Expectations and confidence may be affected by many factors such as job security, uncertainty caused by inflation, instability in share and house prices, lack of stable government, the introduction of new taxes and international events.
- **Availability of goods and services:** Shortages of supply lead to lower consumption and increased availability (e.g. through click and collect or home delivery) increases consumption.

These general factors can be influenced by a raft of other factors such as the level of taxation, the stance of monetary policy, the overall performance of the economy and other non-economic shocks and events. The importance of each factor will be different across the various sub-categories of consumption, e.g. income will have a stronger link to discretionary consumption that autonomous consumption.

4. What is a consumption function?

The consumption function shows how consumption varies with income.

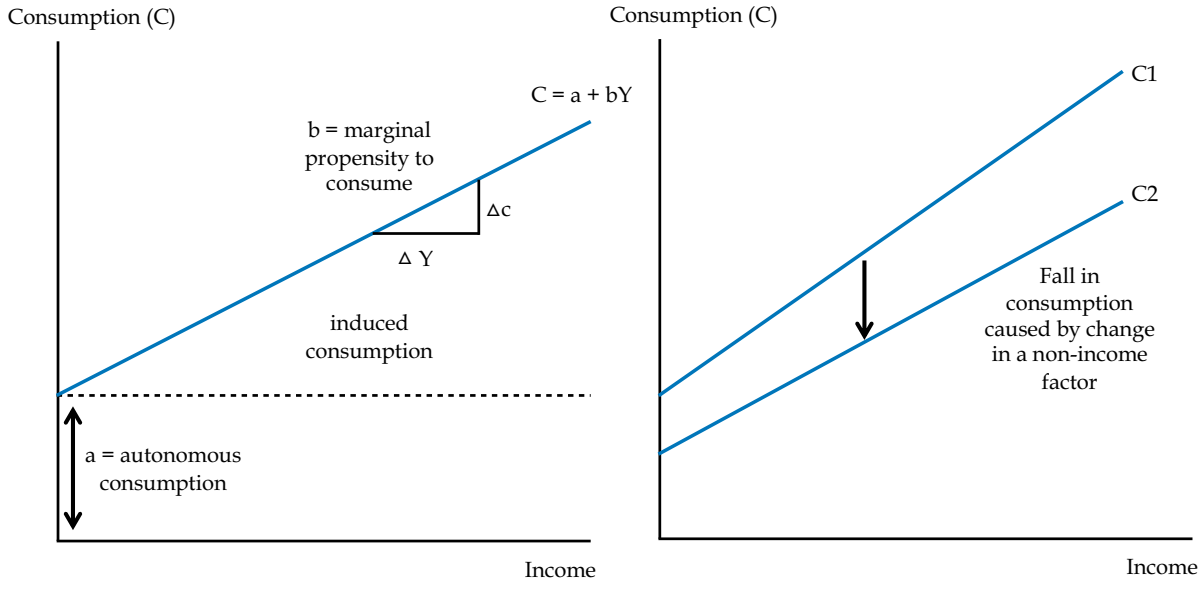


Figure 8.3: Consumption functions

The consumption function has the following features:

Axes	Y axis (dependent variable) = Consumption expenditure. X axis (independent variable) = Disposable income (income less tax).
Autonomous consumption	Some base level consumption is essential (e.g. basic food) and varies little with income. Households may use up savings or get into debt to maintain essential consumption spending.
Induced consumption	Most consumption is discretionary and is likely to vary with income.
Marginal propensity to consume	The proportion of extra income that is spent on consumption is known as the marginal propensity to consume (MPC).
Consumption function	It shows consumption expenditure at each level of real income. The equation of the consumption function is C = a + bY where a = autonomous (non-income related consumption) and b = the marginal propensity to consume (the gradient of the consumption function).
Key assumption 1	MPC is assumed to be the same for levels of income. This assumption is unrealistic in the real world. Households on low incomes will spend most of any increase in income while households on higher income may save some of it.

- Total consumption expenditure over a period of time is autonomous consumption (a) plus discretionary consumption (bY). So C = a + bY.
- The level of consumption expenditure at each level of disposable income is shown at different points on the consumption function.
- There will be a shift in the position of the consumption function when there is a change in a non-income determinant of consumption (e.g. a change in interest rates, consumer confidence or wealth).
- If there is a change in the marginal propensity to consume the gradient of the consumption will change.
- Disposable income is either spent on consumption or it is saved. So Y = C + S. It, follows, therefore, that the formula for the savings function is S = -a + (1 – b) Y

Student Activity 8.2

1. (a) Draw a consumption function for an economy (labelling the axes and the consumption function). (b) On your diagram show the levels of autonomous consumption and discretionary consumption. (c) What determines the gradient of the consumption function?

2. Using fig 8.4
   (a) describe the relationship between income, consumption, and saving.

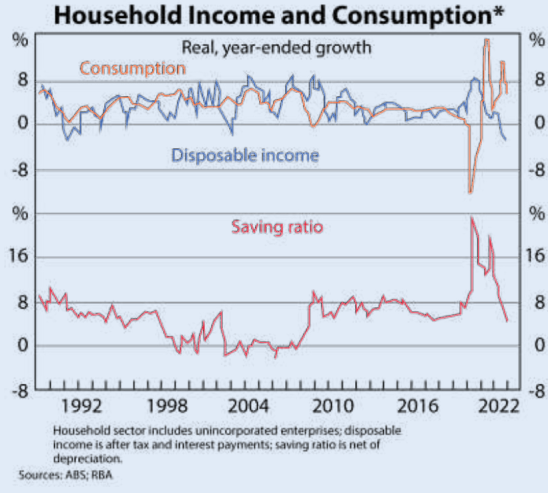


Figure 8.4 Source: RBA Chart Pack

(b) State three reasons households save part of their income.

(c) Identify the types of consumption goods and services that are relatively independent of income and which are more dependent?

3. Using fig 8.5

(a) What is the likely relationship between net wealth and consumption?

(b) What then is likely to have happened to consumption during the global financial crisis (2008–09) and during the Covid-19 recession?

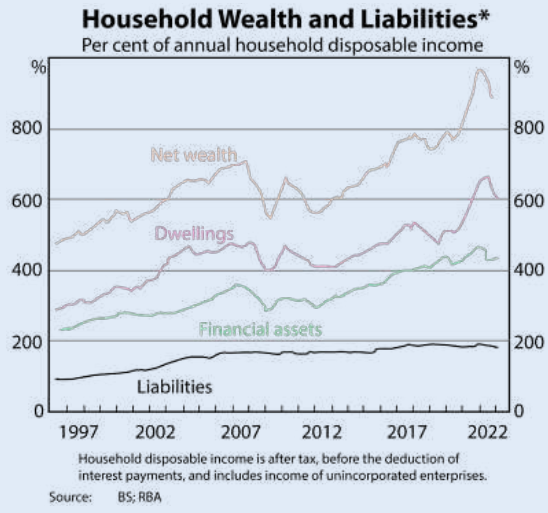


Figure 8.5 Source: RBA Chart Pack

4. Using fig 8.6

(a) What is the relationship between consumer sentiment and consumer spending?

(b) In which years did consumer sentiment fall below 85% of its 1980 level?

(c) List three factors that are likely to affect consumer sentiment or confidence?

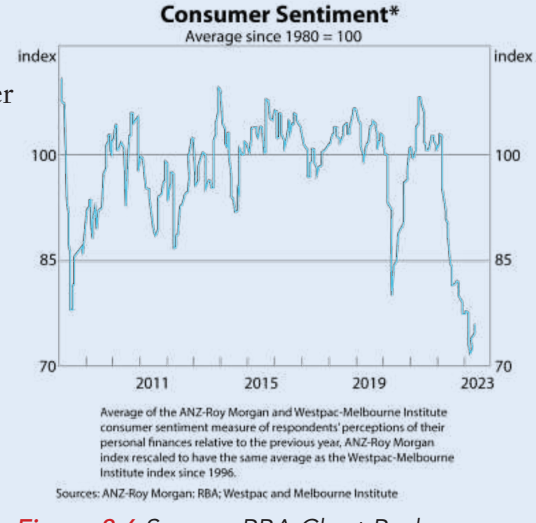


Figure 8.6 Source: RBA Chart Pack

8.3 PLANNED INVESTMENT (Ip)

1. What is planned investment?

- Planned investment occurs when firms' buy capital goods such as machinery, equipment and buildings, when households buy new houses and when governments spend money on infrastructure projects (such as ports, hospitals and 5G networks). The level of planned investment is relatively unstable compared to the other components of aggregate expenditure. Planned investment was about 20% of total expenditure at the height of the mining investment boom but now is closer to 15%.
- Many of the capital and intermediate goods involved in planned investment expenditure are imported. As with imported consumption products an allowance is made for these imports in the net exports (X – M) component of the aggregate expenditure equation.
- In everyday language people are said to 'invest' in shares and bank deposits. However, economists consider this to be saving. Investment refers to spending on capital goods, not on shares purchased in the stock market or deposited in bank accounts.
- Unplanned investment takes place when firms build up stocks, often because sales are lower than expected. This is involuntary and is expensive and firms will take steps to adjust stock levels as soon as possible.

2. What determines the level of planned investment?

The level of investment, over a period of time, is determined by the relationship of real interest rates and the rate of return (or profitability) from investment.

- **Real interest rates:** The level of planned investment is inversely related to the real rate of interest. The real rate of interest is the nominal interest rate adjusted for the rate of inflation. When real rates of interest are high the cost of finance used to purchase capital goods is high and, other thing being equal, the chance of making a satisfactory return from the purchase of the capital good is reduced.
- **Rate of return:** Other things being equal, the higher the expected rate of return from investment spending the higher the level of planned investment. The rate of return is linked to profitability and the marginal efficiency of investment.

3. What other factors may affect investment spending?

A number of factors directly and indirectly affect the expected rate of return and/or the real rate of interest. These include:

- Changes in aggregate demand (e.g. because of changes in international competitiveness).
- Availability of finance (e.g. availability of, and conditions attached to, loans from banks).
- Expectations and business confidence due to the long-term nature of investment
- The level of risk and uncertainty involved.
- Development and availability of new technology (e.g. 3D printing and artificial intelligence) and new energy and mineral resource discoveries.
- Government policy and support (e.g. subsidies or tax breaks) and government regulation (e.g. to reduce carbon emissions).
- Changes to business practice e.g. a shift from a just-in-time approach to supplies to one emphasising security of supply.

4. Doesn't a change in income affect planned investment?

Common sense suggests that it does. If real GDP is increasing businesses are more likely to feel confident about the future and take steps to add extra production capacity. However, in the aggregate expenditure model, planned investment is assumed to be unrelated to changes in real GDP.

5. What is an investment demand curve?

An investment demand curve shows how the level of investment varies with changes in the rate of interest. It is derived from the marginal efficiency of investment function which shows how the rate of return from investment varies with the quantity of

investment. The level of planned investment is determined by comparing the Marginal Efficiency of Investment (MEI) and the real rate of interest (representing the actual the actual cost of raising finance or the opportunity cost of using the firms' own financial reserves).

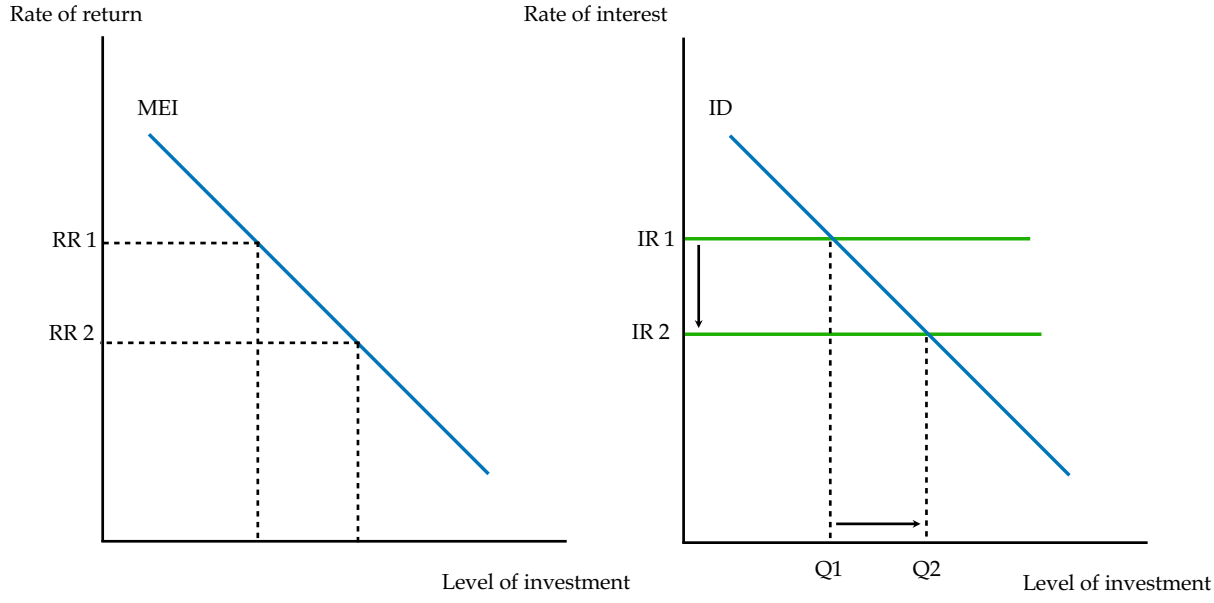


Figure 8.7: Marginal Efficiency of Investment and the Investment Demand Curve

The diagrams have the following features:

Axes (LHS diagram)	Y axis (dependent variable) = Rate of return from investment. X axis (independent variable) = Level of investment.
Axes (RHS diagram)	Y axis (dependent variable) = Rate of interest. X axis (independent variable) = Level of investment.
Marginal efficiency of investment (MEI)	At a given level of economic activity the higher the level of investment the lower the rate of return on each investment project because there are more projects competing for a slice of the available profits. If the level of economic activity rises the MEI function shifts to the right (e.g. after a rise in demand for minerals and energy from China).
Investment demand curve (ID)	The MEI function turns into an investment demand curve (ID) when the rate of return from investment is compared to going rate of interest which indicates the cost of borrowing to finance the investment. The position of the investment demand curve (ID) shifts when there is a change in a non-interest rate factor that affects investment spending. For example, the investment demand will shift to the right if business confidence rises or there is an increase in profits.
Level of investment	If the rate of return is greater than the rate of interest a profit-maximising producer will go ahead and invest. Projects where returns are lower than costs will be shelved.
A fall in interest rates	If the rate of interest falls, other things being equal, the level of investment will increase.
Key assumption 1	It is assumed that producers aim to maximise profits rather than pursue other goals (e.g. expanding market share) and that the rates of return can be calculated.
Different areas of investment	Conditions are likely to vary in different sectors of the economy, e.g. opportunities for profits may be high for mineral and energy producers but low for manufacturers or for residential investment. The focus of investment can change over time e.g. from buildings to machinery.

Student Activity 8.3

1. How would the following events affect the level of planned investment? How would they be illustrated using the investment demand curve model?

	Event	Impact on investment	How would this be shown on the investment demand model?
(a)	An economic recovery		
(b)	A rise in interest rates		
(c)	A fall in forecast profit levels		
(d)	A fall in the cost of borrowing money		
(e)	New technology becomes available		
(f)	Introduction of regulations to address climate control		

2. State four factors that could lead to a rise in planned investment spending in the mineral and energy industries.

(a)	
(b)	
(c)	
(d)	

3. Describe four ways the Government and/or Reserve Bank can influence the level of planned investment spending.

(a)	
(b)	
(c)	
(d)	

4. Sketch a microeconomic demand and supply diagram for the housing market. Show how a fall in home loan rates would affect the decision of households to invest in new houses.

5. Use data from figure 8.8 below to answer the questions that follow.

(a) What was the level of business investment as a percentage of GDP at the height of the mining investment boom (2014–15)?

(b) State three reasons for the fall in investment as a percentage of GDP between 2015 and 2023.

(c) Sketch an appropriate diagram that would help explain the fall in planned investment spending between 2015 and 2023.

Figure 8.8: Source: RBA Chart Pack

8.4 GOVERNMENT SPENDING

1. What are the three tiers of government in Australia?

Government takes place at three levels in Australia – Federal (or Commonwealth), State and Local. In terms of aggregate expenditure it does not matter which level of government undertakes the expenditure.

2. What is the difference between structural and cyclical government spending?

- Structural government spending: This involves spending on the provision of public and merit goods and services, regulating markets (e.g. competition policy, negative externalities, demerit goods) and the redistribution of incomes (e.g. social security, overseas aid). This spending is largely 'locked-in' to on-going programs and, therefore, is relatively stable.
- Cyclical government spending: Some government spending is influenced by the state of the business cycle and hence is described as 'cyclical' or 'automatic' (e.g. spending on unemployment benefits).

3. What determines the level of structural government spending?

Government spending may be affected by a number of non-economic factors such as:

- The political philosophy of the governing party
- Shocks (e.g. floods or drought)
- Demographics (e.g. the ageing population)
- Health care costs (e.g. the rising cost of pharmaceuticals and medical equipment)
- The level of tax revenue and the government's attitude to borrowing

4. How much does the government spend each year?

Commonwealth Government spending per year is forecast to be about 26% to 27% of GDP until 2025-26. Government spending is forecast to grow faster than the economy during the period in the table below as a result of increased interest payments and spending on essential services, such as the National Disability Insurance Scheme, hospitals, aged care, medical benefits, age pension and defence. Aspects of government spending are covered in more detail in Chapter 10 (Fiscal Policy).

	Actual	Forecast			
	2021–22	2022–23	2023–24	2024–25	2025–26
Receipts ($b)	584.4	607.2	621.4	642.8	679.0
Per cent GDP	25.4	24.5	25.3	25.1	25.2
Payments ($b)	616.3	644.1	665.5	694.2	728.6
Per cent GDP	26.8	25.9	27.0	27.1	27.1
Underlying cash balance ($b)	-32.0	-36.9	-44.0	-51.3	-49.6
Per cent GDP	-1.4	-1.5	-1.8	-2.0	-1.8

Source: Australian Treasury

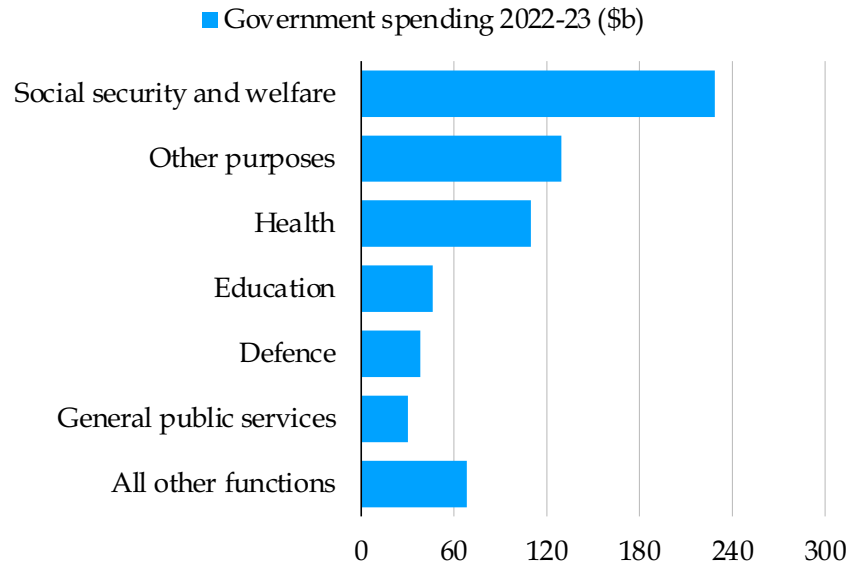


Figure 8.9: Source: Australian Treasury

Student Activity 8.4

1. Use the table and fig 8.9 to answer the following questions.

   (a) What evidence is there in the table that government spending is set to grow faster than the economy?

   (b) Quote data from the table to describe the changes in the budget deficit over the period 2022-23 to 2025-26.

   (c) What is the biggest category of government spending? Which of the government's main roles does this area of spending address?

   (d) What is the total spending on education, health and defence? Why does the government undertake spending in this area?

8.5 NET EXPORTS (X – M)

1. Why are exports a component of aggregate expenditure?
The purchase by non-residents of Australian produced goods and services adds to total demand. Exports are considered an injection into the economy's circular flow because the production of exports creates incomes for Australian firms and households.

2. Why are imports subtracted from other forms of expenditure?
Imports create a leakage from the economy's circular flow. Spending on imports by the household, business and government sectors in Australia creates incomes in economies elsewhere.

3. What are net exports?
The term 'net exports' means export revenue minus import revenue. This is also known as the trade balance. Net exports are a relatively unstable component of aggregate expenditure but were in surplus for the period shown in the chart below.

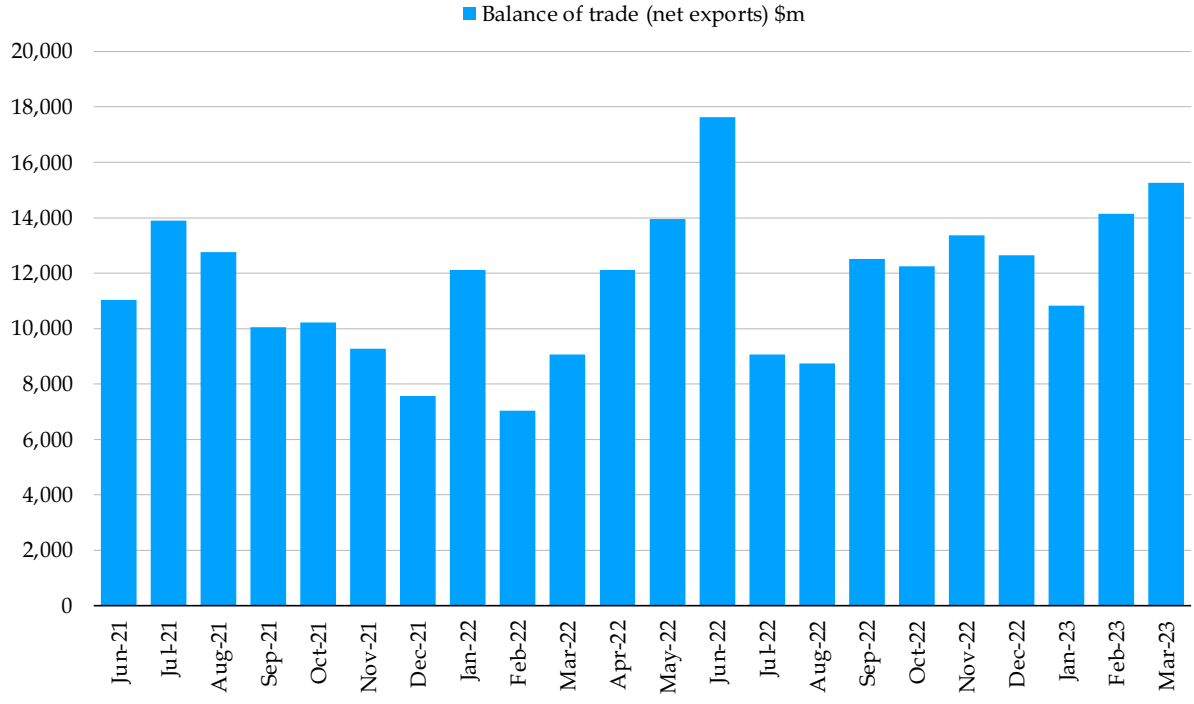


Figure 8.10: Data source ABS.

4. What factors affect the level of net exports?

- **Structural factors:** Structural factors are those that affect our international competitiveness or our ability 'to meet the test of international markets'. Relevant factors include relative inflation levels, the exchange rate value of the Australian Dollar, wage rates, productivity levels and non-price factors such as quality, design and delivery. A change in our terms of trade (export prices divided by import prices) is also a structural influence on net exports.
- **Cyclical factors:** Australia's growth rate affects the level of imports purchased in Australia. Growth in overseas markets affects the level of export orders received in Australia.
- **Shocks:** Exports are periodically affected by natural disasters (e.g. pandemics, typhoons) and political sanctions and embargoes (e.g. suspension of live cattle sales to Indonesia, 5G equipment from China).

Student Activity 8.5

1. Using the data from fig 8.10, state the trade balance in June 2022.

2. State three factors that have been affecting the trade balance over recent years.

3. The trade balance is sometimes in surplus and sometimes in deficit. Describe how changes in the business cycle in Australia and overseas could contribute to a trade surplus.

4. How does the composition of Australia's trade contribute to instability in the value of net exports?

8.6 THE MULTIPLIER PROCESS

1. What is the multiplier process?

The multiplier process follows an autonomous change in one or more of the components of aggregate expenditure. An 'autonomous' change is a change caused by a non-income factor, such as a change in the rate of interest, the exchange rate or consumer confidence. The components of aggregate expenditure are consumption, planned investment, government spending and net exports. An autonomous change in one or more of the components of aggregate expenditure causes a domino effect, chain reaction or multiplier process within the economy so the final change in economic activity is bigger than the change in expenditure that caused it to occur.

2. Why does a multiplier process take place?

The multiplier process occurs because of the connection between income, expenditure and output, as illustrated in the circular flow of income model. The chain reaction is based on two relationships:

- One person's spending is another person's income
- Extra income leads to further spending.

For example, when the WA Government signed a $5b contract with a construction firm to build a railway to Perth Airport the firm needed, for example, to buy capital equipment, fuel and concrete. Their spending created incomes for their suppliers and their workers. A relative high proportion of these new incomes were, in turn, spent and this spending created incomes for other people and so on.

3. How is the strength of the multiplier process measured?

The strength of the multiplier is calculated using the following formula:

$$\text{The multiplier (k)} = \frac{\text{Final change in real GDP}}{\text{Autonomous change in expenditure}}$$

For example, if exports rise by $10b a year and, as a result, real GDP or national income eventually rises by $25b, the value of the multiplier coefficient is 2.5.

A rearrangement of the formula shows that the final change in real GDP equals the autonomous change in expenditure multiplied by the multiplier coefficient. For example, if exports rise by $10b a year and the multiplier coefficient is 2.5, GDP will eventually rise by $25b.

4. Why do economists use 'k' for the value of the multiplier?

'K' is for Keynes! The theories of British economist John Maynard Keynes revolutionised mainstream economic thinking in the 1930s. Amongst many other things, Keynes proposed increasing government spending during the 1930s recession arguing that incomes, and hence employment, would rise by more than the increase in government spending because of the multiplier process. Indeed, the rise in taxes generated by the higher level of income and employment would make the spending stimulus more or less self-funding.

5. What determines the strength of the multiplier?

The strength of the multiplier depends on the proportion of any extra income passed on as spending on goods and services produced within the economy. The proportion of extra income spent on products produced by domestic producers is called the marginal propensity to consume (MPC). For example, If a person receives $100 extra income and, as a result, they spend an extra $60 on domestically produced products, MPC is 0.6.

Marginal propensity to consume (MPC)	Extra consumption / Extra income.
Marginal propensity to save (MPS)	Extra saving / Extra income
In a simplified three sector economy (with only households, firms and banks)	Multiplier coefficient (k) = 1 / (1 – MPC) or 1 / MPS (MPC = marginal propensity to consume and MPS = marginal propensity to save).
In a full five sector economy (including the government and overseas sectors)	Multiplier coefficient (k) = 1 / MPL = 1 / (MPS + MRT + MPM) (MPL = marginal propensity for leakages, MPS = marginal propensity to save, MRT = marginal rate of taxation, MPM = marginal propensity to import).

6. Are there ways of illustrating the multiplier process?

The aggregate expenditure model shows that the final change in income is bigger that the change in spending that brought it about. The multiplier process amplifies autonomous injections and autonomous leakages because changes to spending change incomes and changes in income change expenditure.

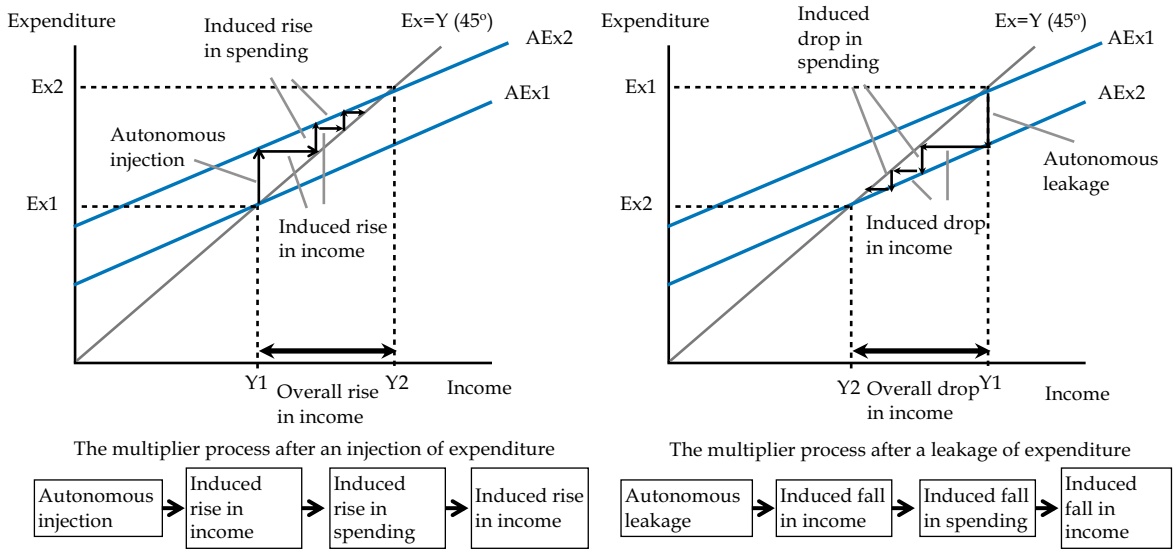


Figure 8.11: The multiplier process

7. **Why is the multiplier important?**
   - **It affects the business cycle:** The multiplier process exaggerates the impact of an autonomous change in spending, increasing the extent of upswings and downswings in the business cycle. For example, when car production ended in Australia there was a drop in demand for car components, lower incomes for workers making components, lower levels of consumption spending by people who lost their jobs, less business for local shops, fewer trips to the movies and so on.
   - **It helps the management of the economy:** This was what Keynes thought anyway. In theory, if economic managers know the size of the output gap (or recessionary or deflationary gap) and the size of the multiplier, they can inject just the right amount of government spending into the economy to close the gap. Not only that, the spending stimulus will, to a degree, be self funding as the multiplied rise in economy activity will generate extra tax revenue for the government. This is a controversial area of economics as will be explained in Chapter 13.

Student Activity 8.6

1. Complete the following table.

	Marginal propensity to consume	Marginal propensity for leakages	Value of multiplier coefficient
(a)	0.5		
(b)	0.6		
(c)	0.7		
(d)		0.2	
(e)		0.1	

2. Complete the table below.

	Change in component of aggregate expenditure ($m)	Final change in income ($m)	Value of multiplier coefficient
(a)	50	200	
(b)		500	2.5
(c)	25		3
(d)	10	20	
(e)	30		1.5

3. Answer the questions in the table below.

(a)	What is the size of the multiplier if a $20m autonomous rise in investment leads to a $30m rise in real GDP?	
(b)	What is the size of the rise in real GDP following a rise in planned investment of $16m, given the marginal propensity to consume in the economy is 0.5?	
(c)	What is the size of the multiplier in a simple three-sector economy (no government and no foreign trade) if the marginal propensity to save is 0.25?	
(d)	What is the size of the multiplier in a full five-sector economy if the marginal rate of tax is 0.3, the marginal propensity to import is 0.2 and the marginal propensity to save is 0.1?	

4. Complete the following table. The MPC = 0.75 and the initial autonomous increase in investment in round 1 = $64m.

	Change in income ($m)	Leads to (induces) change in consumption of… ($m)	Leads to (induces) change in savings of… ($m)
1st Round	64	0.75 × 64 = 48	0.25 × 64 = 16
2nd Round	48	0.75 × 48 = 36	0.25 × 48 = 12
3rd Round			
4th Round			
5th Round			
6th Round			
Final total after infinite rounds			

5. Calculate the size of the multiplier in the two situations below.

(a) (b)

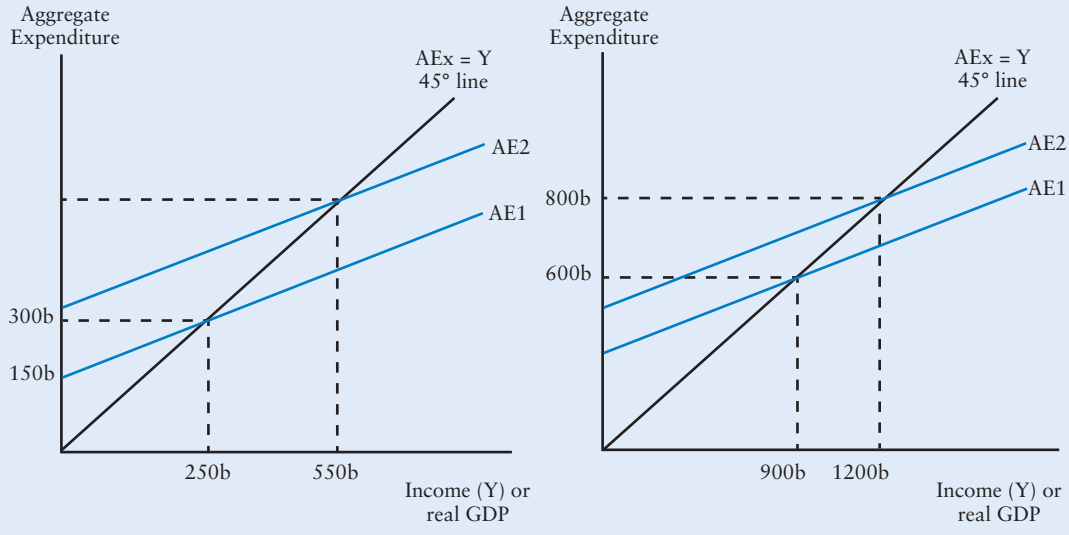


Figure 8.12

6. Complete the following table.

		Missing word or number
(a)	The smaller the value of the rate of leakages from the economy the _____ the value of the multiplier.	
(b)	The bigger the value of the marginal propensity to consume in an economy the _____ the value of the multiplier.	
(c)	A major sporting event leads to an injection of $6b. If the MPC is 0.45 the final impact of the event will be _____.	
(d)	A government raises income tax by $8b. If the MPC in the economy is 0.6, consumption spending will _____ by $4.8b.	
(e)	As a result of the $4.8b cut in consumption, economic activity will eventually fall by _____ (assuming MPC is 0.6)	

8.7 AGGREGATE EXPENDITURE MODEL AND ECONOMIC PERFORMANCE

1. Can the aggregate expenditure model show economic growth?

Almost! The left hand diagram in figure 8.13 shows a rise in aggregate expenditure (from AE1 to AE2) that will trigger a multiplier process and cause income to rise from Y1 to Y2. There must be some economic growth for this rise in income to occurs. The right hand diagram shows a fall in aggregate expenditure (from AE1 to AE2) that will, after a negative multiplier process, cause income to fall from Y1 to Y2. There must have been some negative economic growth (or a recession) for this fall in income to occur.

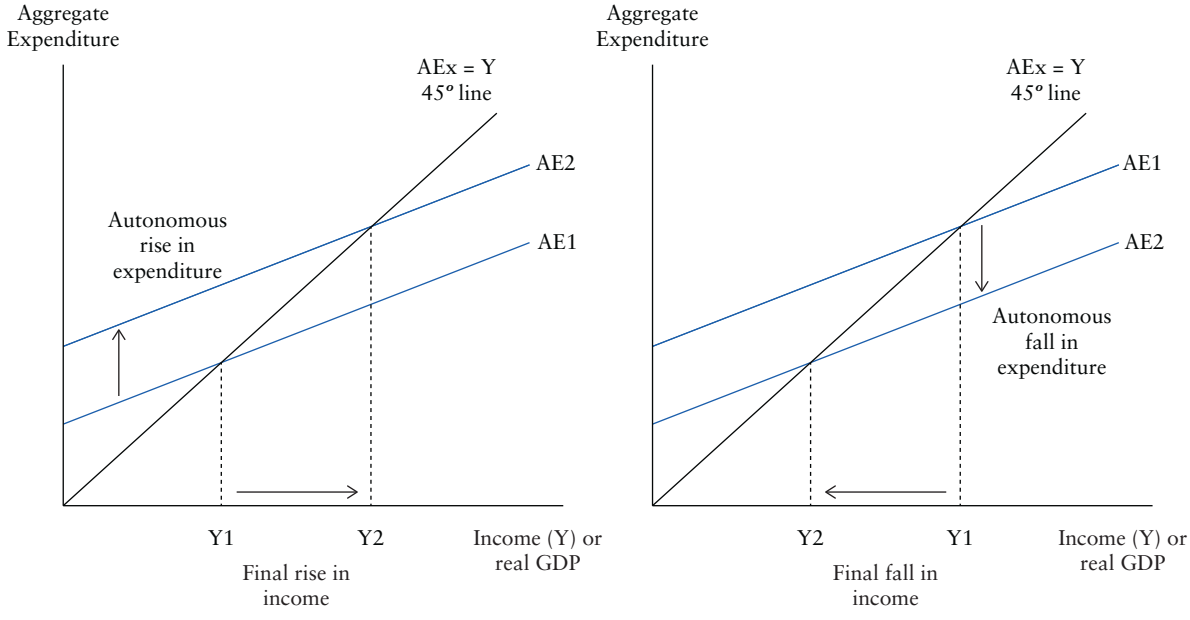


Figure 8.13: AE and economic growth

2. Can the aggregate expenditure model indicate inflation and unemployment?

- **Unemployment:** In the left hand diagram in figure 8.14, aggregate expenditure (AE1) is lower than the level needed to ensure full employment (AE2). The shortfall in aggregate expenditure is called a deflationary gap. Actual income (at Y1) is below the level of potential output (or full capacity). The gap between Y1 and full-employment Y is called a recessionary gap or an output gap. In this situation there will be cyclical or demand deficient unemployment.
- **Inflation:** In the right hand diagram, aggregate expenditure (AE2) is above the level needed for full employment (AE1). The excess amount of aggregate expenditure is called an inflationary gap. Actual income (at Y2) is above the level of potential output (or full capacity). The gap between Y2 and full-employment Y is called a negative output gap. In this situation there will be demand-pull inflation.

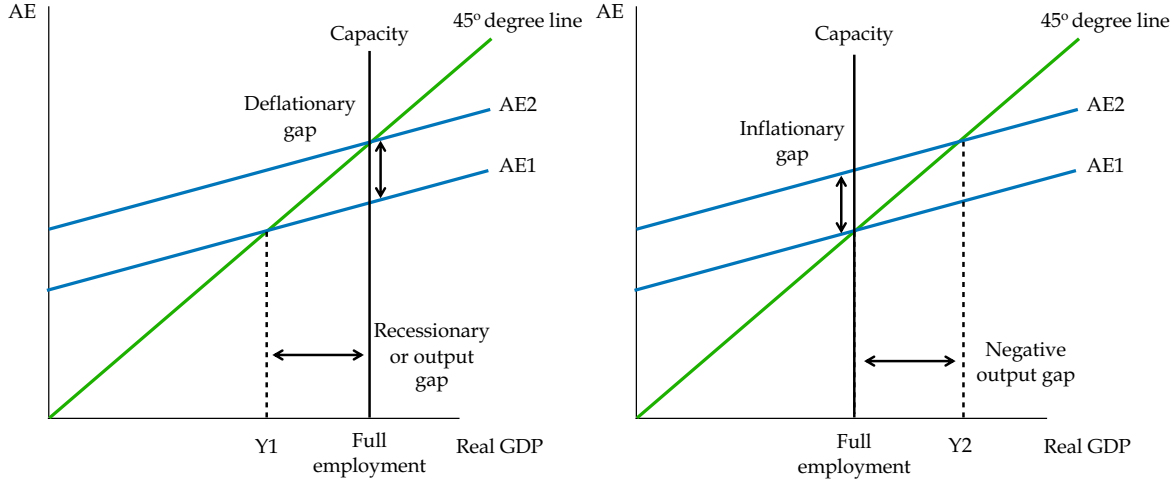


Figure 8.14: AE, inflation and unemployment.

SO YOU THINK YOU UNDERSTAND AGGREGATE EXPENDITURE	
Difference between Aggregate Expenditure and Aggregate Demand **Four components of AE** 1 2 3 4	**Saving** **Factors that affect saving** 1 2 3 4 **Importance of saving** 1 2
Consumption **Types** 1 2 3	**Planned private investment** **Types** 1 2 3 4
Factors affecting consumption 1 2 3 4 5	**Factors affecting planned investment** 1 2 3 4
Consumption function 1 2 3 4 5	**Investment demand model** **Features of investment demand model** 1 2 3
Government spending **Types** 1 2	**Pressures on government spending**
Net exports **Types of traded goods and services** 1 2 3	**Factors affecting the level of net exports** 1 2 3
Five features of AE model 1 2 3 4 5	**Multiplier process** **Formulae** **Simple 3 sector multiplier** **Complex 5 sector multiplier**

TEST YOUR KNOWLEDGE

Aggregate Expenditure Multiple-Choice Questions

1. Which one of the following is an accurate definition of the term 'aggregate expenditure'?
   (a) The sum of consumption, planned investment, government spending and net exports in a given time period
   (b) The level of firms' and households' spending on goods and services in a given period of time
   (c) The sum of consumption, planned investment, government spending and exports less purchases of imports, payment of tax and saving in a given period of time
   (d) The sum of spending by producers and consumers on capital equipment in a period of time that can be used to make final goods and services in the future

2. In which of the following situations will an economy be in equilibrium?
   (a) When consumption spending equals planned investment spending
   (b) When planned expenditure equals income and output
   (c) When planned expenditure equals aggregate demand
   (d) When the budget is balanced and net exports are zero

3. Which of the following currently makes the smallest contribution to aggregate expenditure in Australia?
   (a) Consumption.
   (b) Planned investment.
   (c) Government spending.
   (d) Net exports.

4. The table shows the level of consumption at different levels of income.

Income	Consumption
0	80
50	110
100	140
150	170
200	200

   Using the data in the table state which of the following is correct.
   (a) Autonomous consumption is 30 and marginal propensity to consume is 0.4
   (b) Autonomous consumption is 80 and marginal propensity to consume is 0.6
   (c) Autonomous consumption is 30 and marginal propensity to consume is 0.6
   (d) Autonomous consumption is 80 and marginal propensity to consume is 0.4

5. Which of the following is most likely in the context of the Australian economy?
   (a) A rise in the real rate of interest is likely to reduce the level of planned investment and reduce household consumption.
   (b) A fall in household wealth due to a fall in share prices or house prices will lead to a rise in consumption spending and a rise in import purchases.
   (c) A reduction in the budget deficit will lead to a rise in the level of leakages from the circular flow of the economy.
   (d) A fall in the exchange rate will always lead to a fall in net exports (i.e. less exports and more imports).

6. Which of the following determines the slope of the consumption function?
   (a) The marginal propensity to consume.
   (b) The marginal propensity to consume, undertake planned investment and buy exports.
   (c) The real rate of interest.
   (d) The size of the multiplier.

7. Which of the following is a correct way to calculate the strength of the multiplier?
   (a) Divide the amount of an autonomous increase in aggregate expenditure by the final change in the level of economic activity.
   (b) Divide the final change in GDP by the autonomous spending change that caused it.
   (c) Add the change in aggregate expenditure to the value of the autonomous injection.
   (d) Subtract the final change in aggregate supply from the final change in aggregate expenditure.

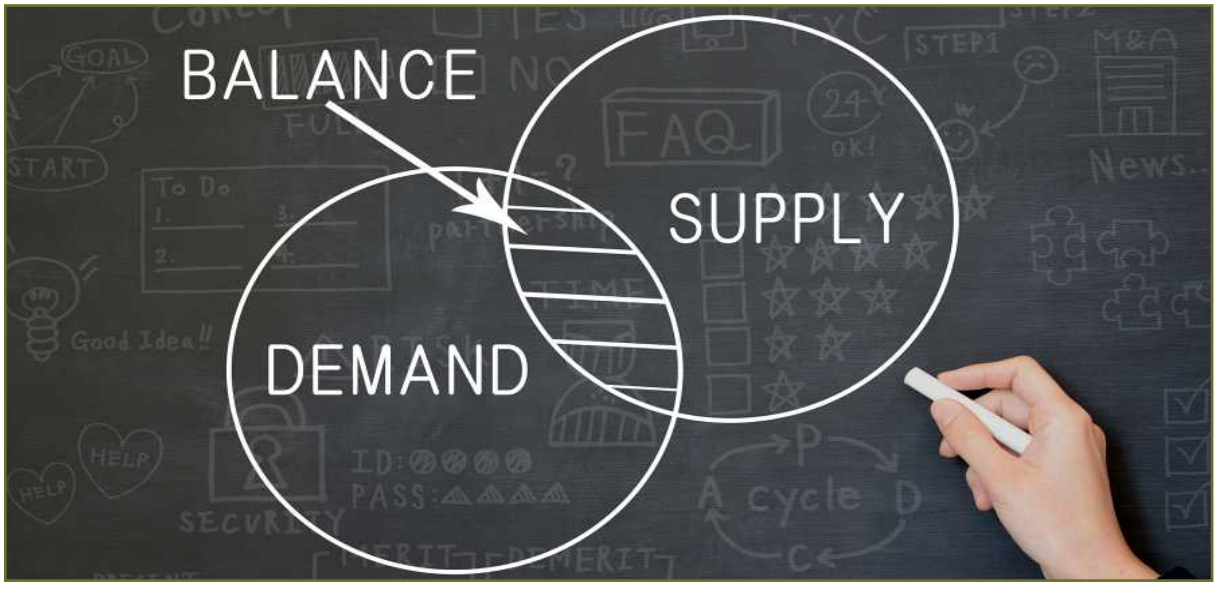
8. If the value of the investment multiplier is 5, an autonomous increase in
   (a) income of $10 will result in investment increasing by $50
   (b) planned investment of $10 will result in income increasing by $60
   (c) planned investment of $10 will result in consumption increasing by $40
   (d) consumption of $10 will result in investment increasing by $40

9. Suppose that real GDP equals $700b while full employment real GDP equals $800b. Which of the following correctly states the change in government spending needed to close this gap to zero?
   (a) $25b if the MPC is 0.80
   (b) $30b if the MPC is 0.70
   (c) $20b if the MPC is 0.75
   (d) $15b if the MPC is 0.80

10. Assume an economy has no taxation and no imports. Real GDP is $5m and potential GDP is $5.5m. To move the economy to the potential GDP output level, the government can increase spending by _____ if the MPC is _____. The missing figures are:
   (a) $500 000; 0.75
   (b) $50 000; 0.9
   (c) $50 000; 0.75
   (d) $125 000; 0.9

THE AGGREGATE DEMAND AND AGGREGATE SUPPLY

9



SYLLABUS CHECKPOINTS

- ☐ The aggregate demand (AD) curve and factors that can cause movements along and shifts of the AD curve
- ☐ The short-run aggregate supply (SRAS) curve and factors that can cause movements along and shifts of the SRAS curve
- ☐ The long-run aggregate supply (LRAS) curve and factors that can cause shifts of the LRAS curve
- ☐ Macroeconomic equilibrium using the AD/AS model
- ☐ The impact of changes in aggregate demand and aggregate supply on the equilibrium level of income/output using the AD/AS model
- ☐ The use of the AD/AS model to explain the business cycle

AGGREGATE DEMAND AND AGGREGATE SUPPLY	
1	Changes in the level of economic activity and the price level caused by changes in aggregate demand and aggregate supply can be analysed using the aggregate demand and aggregate supply model.
2	The aggregate demand curve shows the level of aggregate demand (AD) at different price levels. The aggregate demand curve slopes downward to the right, showing a negative relationship between aggregate demand and the price level. This negative relationship reflects the impact of changes in the price level on interest rates, wealth and international competitiveness and their impact on C, Ip, G and X – M.
3	The aggregate demand function shifts its position when there is a change in the total of consumption spending (C), planned investment (Ip), government spending (G1 and G2) and net exports (X – M). However, the AD/AS model doesn't show the step-by-step changes during the multiplier process. Both the autonomous and the subsequent induced multiplier changes are combined in the shift of the AD curve.
4	The short-run aggregate supply (SRAS) curve shows firms' willingness to supply at different price levels and is based on an assumption that costs of production e.g. wages, are fixed. The SRAS curve slopes upwards to the right. Essentially it is the sum of individual producers' supply curves.
5	Aggregate supply shifts its position when there is a change in production costs or in the capacity to produce.
6	The long run aggregate supply curve (LRAS) is independent of the price level. It is a vertical line at the potential level of GDP. The long-run aggregate supply curve focusses on the production capacity of the economy.
7	Economic shocks such as the pandemic, bushfires and drought, disruption to supply chains and war in Europe may cause changes in aggregate demand and/or aggregate supply. Economies may be impacted at any one time by a combination of shocks. A shock can have multiple effects on an economy.
8	The equilibrium level of real GDP in the short-run occurs when AD and SRAS are equal. This may not be sustainable in the long-term because production costs are likely to change due to any shortage or excess as a result of the GDP or output gap, and firms will adjust their output and pricing accordingly.
9	The equilibrium level of GDP in the long-run is when real GDP coincides with the economy's output capacity.
10	The model is a useful way of organising thinking about the impact of demand and supply shocks and the rise and fall of economic activity over the cycle.

9.1 THE AGGREGATE DEMAND AND AGGREGATE SUPPLY MODEL

1. What is the model?

The aggregate demand and aggregate supply model is used to show the impact of changes in aggregate demand (AD) and aggregate supply (AS) on the level of economic activity and, hence, macroeconomic performance.

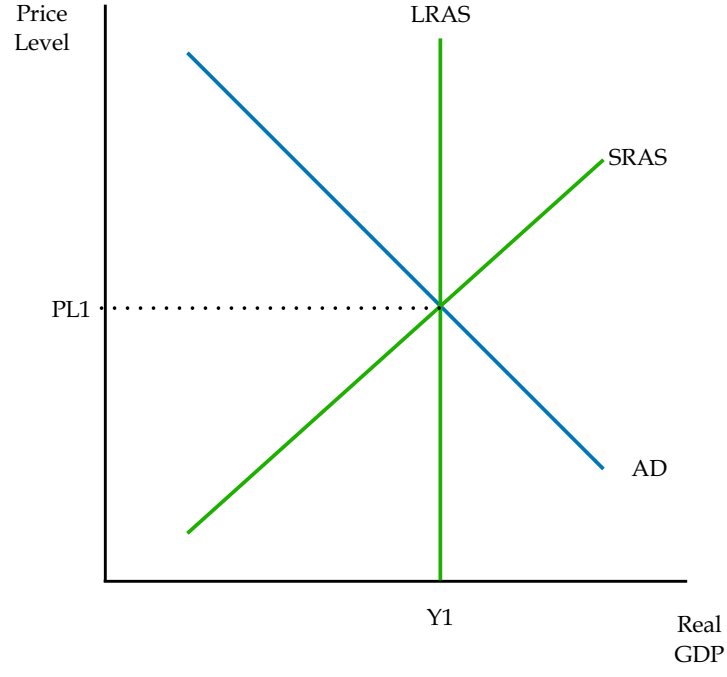


Figure 9.1: Aggregate demand and aggregate supply model

Axes	Y axis (dependent variable) = Price level X axis (independent variable) = Income or real GDP (or output).
Aggregate demand	The AD curve shows the level of aggregate demand over a period of time at different price levels. The AD curve slopes down and to the right because there is an inverse relationship between aggregate demand and the price level. AD falls as the price level rises due to the impact of higher prices on interest rates, international competitiveness and the level of households' real wealth. The AD curve shifts when there is a change in one or more of the components of AD, i.e. consumption, planned investment, government spending and net exports. When there is an increase in AD the curve shifts to the right, and when AD falls the curve shifts to the left.
Long-run aggregate supply	The LRAS curve is fixed by the level of economic capacity and is independent of the price level. The LRAS curve, therefore, is a vertical line at the full capacity level of real GDP
Short-run aggregate supply	The SRAS curve slopes upwards to the right. It can be considered to be the sum of the microeconomic supply curves of all the producers in the economy. SRAS curves are drawn on the assumption that the cost of resources, such as labour, are fixed. When production costs increase SRAS shifts upward and when production costs fall SRAS shifts downward.
Long run equilibrium	Long-run equilibrium is when AD = SRAS = LRAS
Short-run equilibrium	Short-run equilibrium is where AD = SRAS. The economy will self-adjust to the long-run equilibrium position over time.

9.2 THE AGGREGATE DEMAND CURVE

1. How is an aggregate demand curve constructed?

- Aggregate demand is the total demand for final goods and services in an economy at a given price level over a given period of time.
- The aggregate demand curve shows the value of goods and services that will be purchased over a given period of time at any given price level.
- The axes on the aggregate demand curve show the average price level (Y axis) and real GDP (X axis). The average price level is a price index such as the consumer price index or the implicit price deflator index. Real GDP is the level of final demand for goods and services in an economy adjusted for the level of inflation.

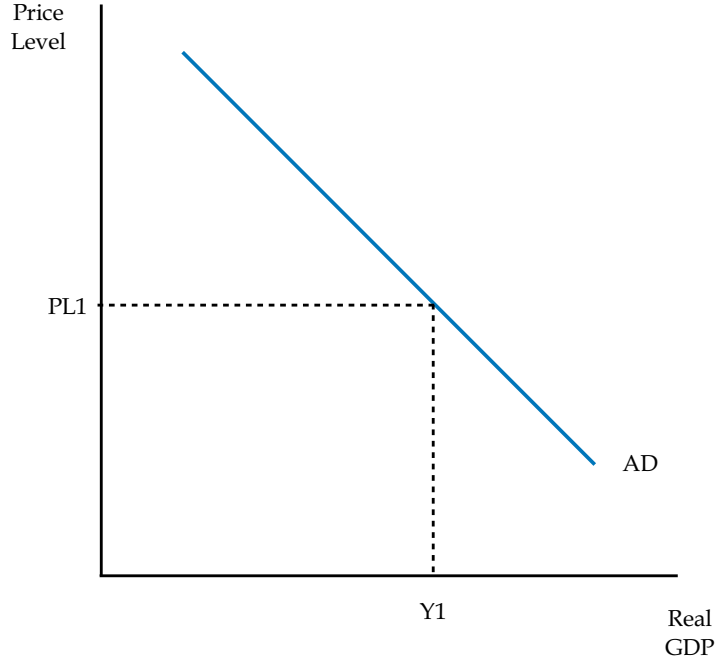


Figure 9.2: Aggregate demand curve

2. Why does the aggregate demand curve have a negative slope?

The aggregate demand curve reflects an inverse relationship between the average price level and the level of aggregate demand. When the average price level rises there is a fall in the level of real GDP and when the average price level falls there is a rise in the level of real GDP. There are three reasons behind the inverse relationship between the price level and real GDP.

- **Interest rate effect:** Higher prices normally lead to higher nominal interest rates in order to reward or compensate savers for the impact of inflation on the real value of bank deposits and loans. Higher interest rates tend to reduce consumption and investment.
- **Real balance or wealth effect:** Higher prices lead to a reduction in the purchasing power of household wealth. A loss of real wealth leads to less consumption.
- **International competitiveness effect:** Higher domestic prices (assuming no change in price levels overseas) make exports less competitive and imports more attractive. Therefore, the loss of competitiveness reduces the value of net exports.

3. Is aggregate demand the same as aggregate expenditure?

- Both aggregate expenditure and aggregate demand are related to the components of spending, namely consumption spending (C), planned investment spending (Ip), government spending (G) and spending on net exports (X – M). However, as the aggregate demand curve and aggregate expenditure function slope in different directions, aggregate demand and aggregate expenditure cannot be the same.
- Aggregate expenditure is a measure of economic activity at a given price level. The aggregate expenditure function shows how spending changes with changes in income. It slopes upwards to the right with its gradient determined by the marginal propensity to consume.

- The aggregate demand function shows the level of spending over a range of prices. It slopes downwards to the right because of the impact of prices on interest rates, real wealth and international competitiveness.

4. What happens to the position of the aggregate demand curve when the price level changes?

Nothing happens to the position of the aggregate demand curve because the curve already shows the relationship between the price level and the level of real GDP. A movement along the existing aggregate demand curve shows the new level of real GDP at the new price level. The left hand diagram in fig. 9.3 shows that, for example, when the price level falls from 150 to 100, aggregate demand expands from $650b to $1000b.

5. So what does cause a shift in the position of an aggregate demand curve?

A change in any factor affecting aggregate demand, other than a change in the price level, causes a shift in the position of the aggregate demand curve. These non-price factors change the level of aggregate demand at each price level. The right hand diagram in fig. 9.3 shows, for example, an increase in aggregate demand from $1b to $1.25b and a stable price level of 150.

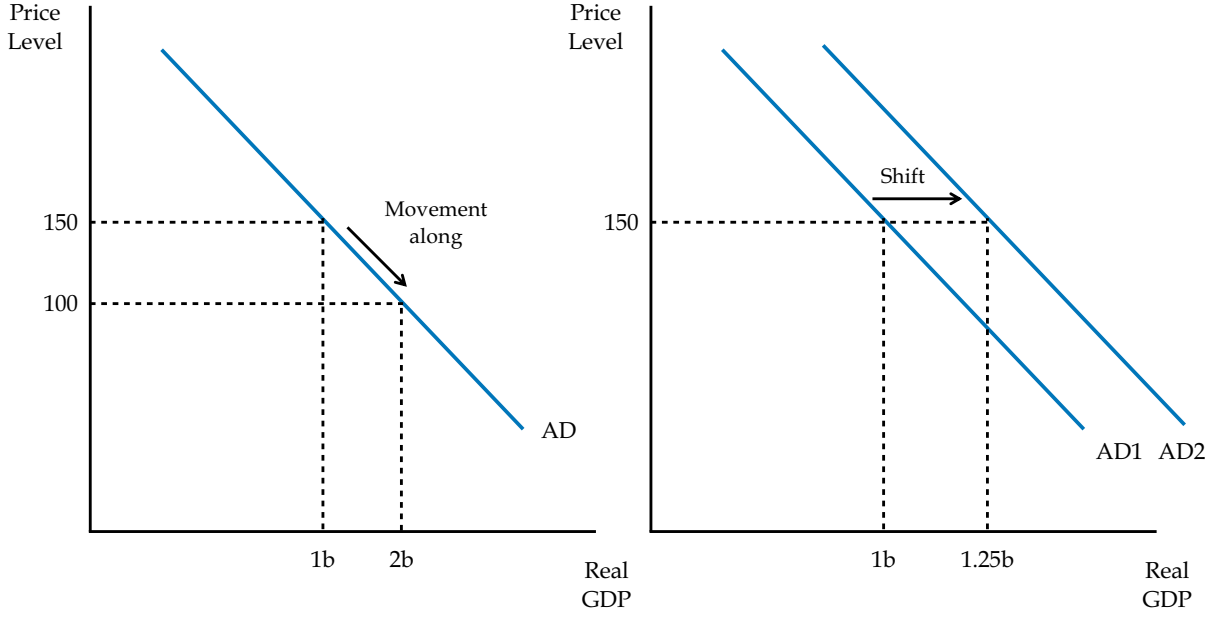


Figure 9.3: Shifts and movements along an aggregate demand curve

6. Can you remind me about the key non-price level factors that impact on AD?

Component of aggregate demand	Non price-level factors affecting components of aggregate demand
Consumption	Income, real interest rates, wealth, consumer confidence and expectations.
Planned Investment	Real interest rates, profitability, new technology, business confidence and expectations.
Government spending	Cyclical factors (e.g. changes in income), structural factors (e.g. change of political philosophy) and shocks (e.g. war)
Net exports	Cyclical factors (growth here and overseas), structural factors (affecting international competitiveness), shocks (e.g. drought and floods)

Student Activity 9.1

1. Complete the following table about the difference between microeconomic demand curves and the macroeconomic aggregate demand curve.

		Microeconomic demand curves	Macroeconomic aggregate demand curves
(a)	How many curves are there?		
(b)	What is shown on the Y-axis?		
(c)	What is shown on the X-axis?		
(d)	What is the equilibrium position?		

2. What are the components of aggregate demand?

3. What happens to aggregate demand, other things being equal, when:

(a)	There is a rise in the average level of prices	
(b)	Fall in government spending to help balance the budget	
(c)	A rise in the cash rate to control inflation	
(d)	Fall in investment in mining sector	
(e)	Exports fall as a result of loss of less competitiveness in overseas markets	
(f)	Net exports rise following a depreciation of the exchange rate	
(g)	A rise in property prices increases the level of some households' wealth	
(h)	Households increase the level of saving as a result of fall in consumer confidence	

4. What causes the aggregate demand curve to slope down and to the right? What will influence the slope or gradient of the aggregate demand curve?

9.3 SHORT-RUN AGGREGATE SUPPLY (SRAS) AND LONG-RUN AGGREGATE SUPPLY (LRAS)

1. What is a short-run aggregate supply curve (SRAS)?
Short-run aggregate supply is the total value of goods and services produced in an economy at a given price level over a given period of time. It is essentially the sum of the supply curves of all the individual producers in an economy.

2. What does a short-run aggregate supply curve (SRAS) look like?
Short-run aggregate supply curves (SRAS) look like microeconomic supply curves, sloping upwards to the right. In macroeconomics, the short-run is defined as the time period in which unit prices of factors of production do not change, e.g. wage rates and energy prices. Total costs will, of course, change when producers expand or contract their level of output.

3. What causes a shift in the short-run aggregate supply curve?
The short-run aggregate supply curve shows the relationship between the overall willingness to supply (real GDP) and the price level in the short run. If unit production costs change the whole SRAS curve shifts its position. Unit production costs may change, for example, because of changes in wage rates, changes in productivity, changes in raw material prices (e.g. oil, iron ore), changes in the prices of intermediate imported goods (e.g. because of changes in the exchange rate).

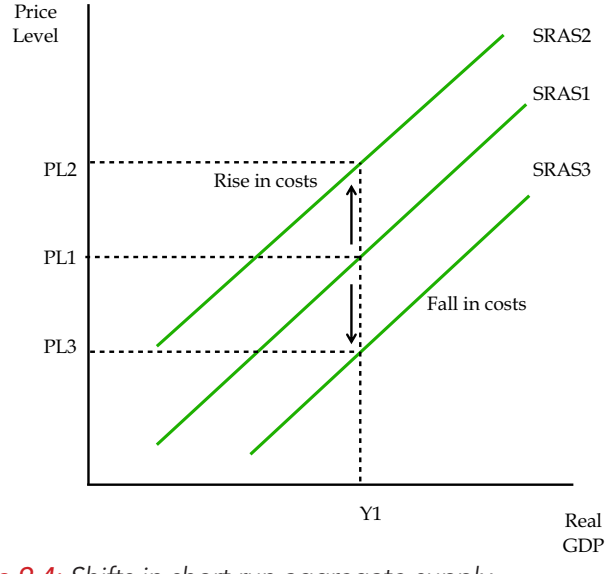


Figure 9.4: Shifts in short run aggregate supply

4. **What does a long run aggregate supply curve (LRAS) look like?**
   - The long-run aggregate supply curve (LRAS) is a vertical line at the full capacity level of GDP. It is vertical because capacity is not affected by changes in the price level.
   - The position of LRAS, therefore, depends on the level of the economy's potential output or full-employment level of output.
   - The position and vertical nature of LRAS is consistent with a number of other economic models such as the vertical line showing capacity in the aggregate expenditure model, the concept of potential GDP in the business cycle model and with the production possibility frontier model.

5. **When will the long-run supply curve shift its position?**
   - LRAS shifts to the right if the capacity or level of potential output of the economy increases. This could be as a result of, for example, the discovery of more natural resources, net inwards migration, investment in capital equipment incorporating new technology or a rise in productivity.
   - LRAS shifts to the left if the capacity or the level of potential output of the economy decreases. This could be as a result of, for example, natural disasters, depreciation of capital equipment, scarring (or damage) caused by a prolonged recession, net outwards migration or a fall in productivity.

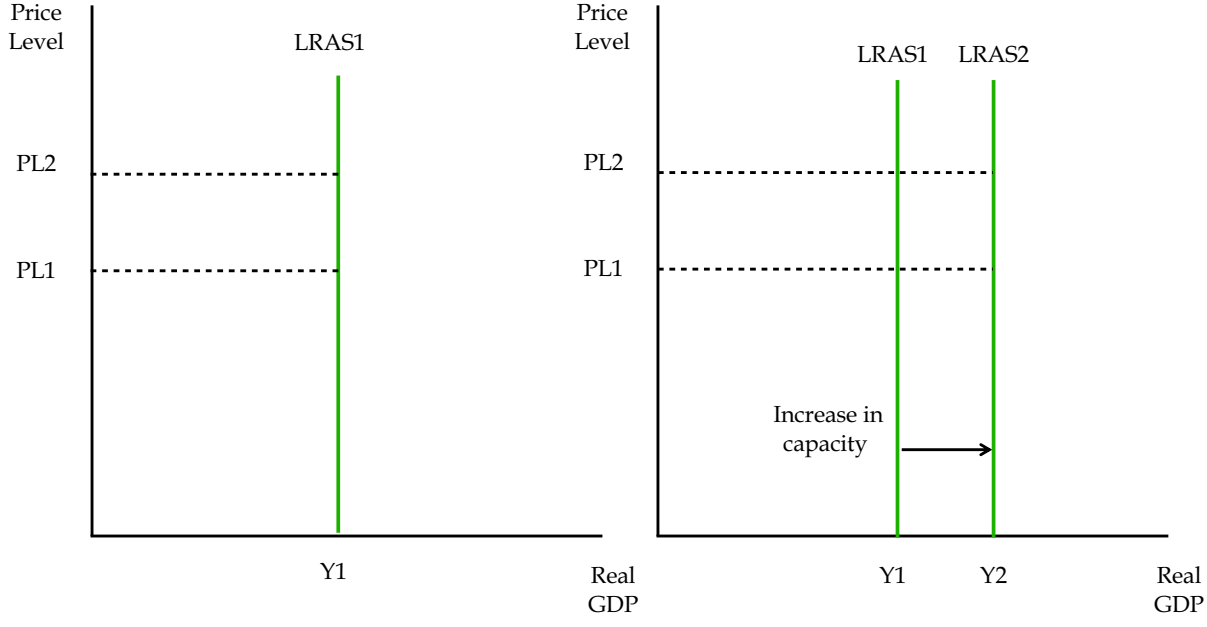


Figure 9.5: Shifts in long run aggregate supply

Student Activity 9.2

1. Define the term 'aggregate supply'.

2. Complete the following table.

	Change in SRAS	Explanation / Cause
(a)	Upward shift in SRAS	
(b)	Downward shift in SRAS	
(c)	Movement along SRAS	

3. Why is the long-run aggregate supply curve a vertical line? What determines the position of LRAS along the real GDP axis?

4. State two examples of factors that would cause LRAS to shift to the left and two different factors that would cause LRAS to shift to the right.

9.4 EQUILIBRIUM USING THE AGGREGATE DEMAND AND AGGREGATE SUPPLY MODEL

1. When does short-run equilibrium occur?

Short-run equilibrium occurs when aggregate demand equals short-run aggregate supply (SRAS). The left hand diagram in fig. 9.6 shows the short-run equilibrium position following a fall in aggregate demand to AD1. The price level is at PL1 and real GDP is Y1.

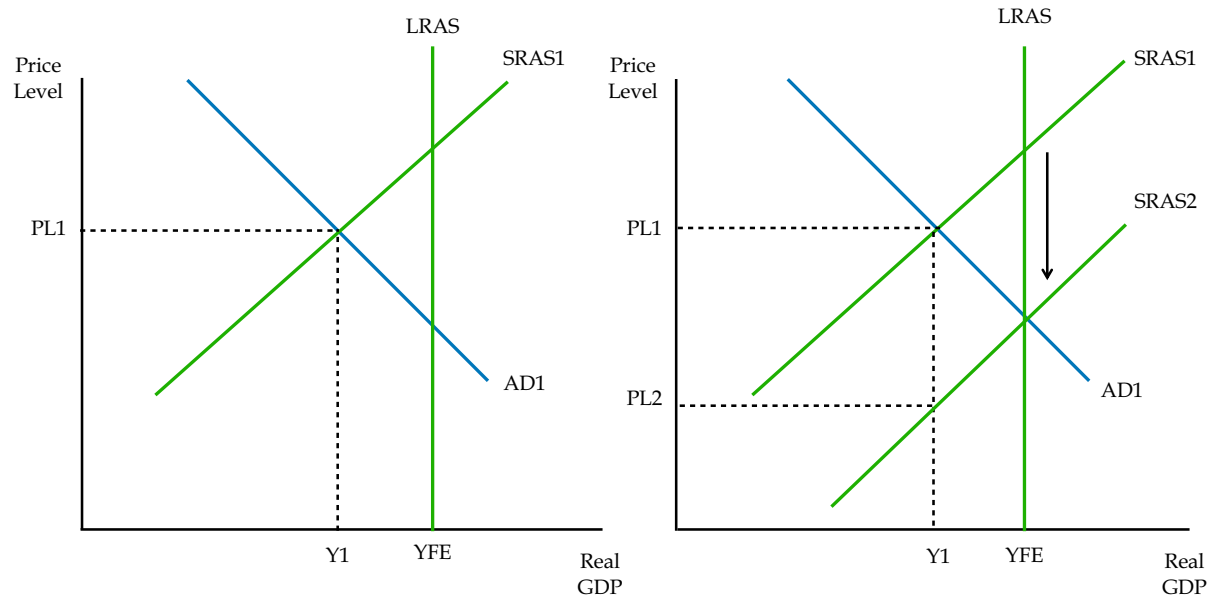


Figure 9.6: Equilibrium in the short and long run

2. Is short-run equilibrium only a temporary state of affairs?

PL1/Y1 is only a short-run equilibrium position because of the impact of the recessionary (deflationary or output) gap (YFE – Y1). The gap leads to a surplus in factor or resource markets. For example, there will be a surplus of labour (or unemployment) at existing wage rates. As long as there sufficient wage flexibility, wages will begin to trend down. As wages fall the SRAS shifts down with the process continuing, in theory, until resources are again being fully used and the economy has returned to the LRAS real GDP level.

3. Just to be clear, please remind me why this happens.

The key assumptions in the model are:

- Prices in resource markets, particularly labour markets, adjust when there are shortages or surpluses in resource markets.
- A change in the cost of resources causes a change in producers' willingness to supply and this is reflected in a shift in SRAS.
- The long-run capacity of the economy is independent of the economy's price level (as shown on a LRAS).

4. Can short-run and long-run aggregates shift at the same time?

In many situations changes in supply conditions result in shifts in both the short-run and long-run aggregate supply curves. For example, if there is an increase in production efficiency caused by technological change, there will be both fall in production costs (and a rightward shift in SRAS) and an increase in production capacity rises (causing a rightward shift in LRAS). Equally government spending on improved transport infrastructure would increase capacity or potential output (causing a rightward shift in LRAS), cut delivery times and reduce business costs (causing a downward shift in SRAS).

5. **Where is the long-run equilibrium?**
The long-run equilibrium is shown in the right hand diagram in fig. 9.6. The fall in resource costs leads to a downward shift in the SRAS curve (from SRAS1 to SRAS2). When SRAS2 is reached real GDP will be back at the full employment level of real GDP (YFE). Long-run equilibrium is where AD1, SRAS2 and LRAS1 all cross. Long-run equilibrium is always at the full employment level of real GDP, but at varied price levels.

6. **Would a reverse sequence happen if the short-run equilibrium was above full employment real GDP?**
If real GDP is above the full-employment level of real GDP and an inflationary gap would exist. There would be a shortage of resources and resource prices would to rise (e.g. there are labour shortages and wage rates rise). The rise in resource costs will cause an upward shift in SRAS. The rise in SRAS causes aggregate demand to contract until long equilibrium is again reached.

7. **If this is correct what should be the government's policy response?**
This self-adjustment process only works if factor prices are sufficiently flexible to clear factor markets. However, if factor prices are 'sticky' (e.g. because of minimum wage laws, awards, enterprise bargain agreements and trade union action) real GDP can become stuck above or below the long-run equilibrium level. The greater the degree of factor price flexibility the less need there is for governments and central banks to adjust aggregate demand through, for example, changes to government spending, taxes and the cash rate. Indeed demand management could, in the long run, make matters worse (e.g. because countries will build up sovereign debt or crowd out private sector activity). An alternative policy option is to look at the supply side of the economy to ensure markets are sufficiently flexible (or deregulated) and competitive to allow a smooth and quick self-adjustment process.

Student Activity 9.3

1. Draw two diagrams to contrast the short-run and long-run equilibrium positions for an economy.

2. State why, following a fall in the level of aggregate demand, the short-run equilibrium position is not the final equilibrium position for an economy.

3. Compare a 'demand side' and a 'supply side' approach to dealing with a deflationary (recessionary or deflationary) gap? Identify two factors that are likely to influence the policy mix of a government facing such a gap.

9.5 DEMAND AND SUPPLY SHOCKS

1. What is the impact on the economy of a demand or supply shock?

A shock occurs when there is a change in an autonomous (i.e. non-price) factor affecting aggregate demand and/or aggregate supply. Shocks disturb the equilibrium in the economy by causing shifts in aggregate demand and/or aggregate supply.

2. What is a negative supply shock?

Negative supply shock	
Impact on AD/AS model	SRAS shifts up and to the left
Cause/symptom	Rising costs
Impact on price level	Increase
Impact on real GDP	Decrease

Examples
- Wage rises not linked to productivity
- Broken supply chains / shortage of components / closure of Chinese ports during pandemic
- Switch to shorter, but more reliable, supply chains
- Rise in global prices of food and energy e.g due to sanctions on Russia following invasion of Ukraine
- Increase in production costs e.g. due to health and safety regulations
- Fall in productivity because of new work practices (e.g. working from home)

3. What is positive supply shock?

Positive supply shock	
Impact on AD/AS model	SRAS shifts down and to the right
Cause/symptom	Reduction in costs
Impact on price level	Decrease
Impact on real GDP	Increase

Examples
- Rise in the value of the Australian Dollar leads to cheaper imported intermediate and capital goods
- Increase in productivity (efficiency) reduces unit costs
- Fall in food prices resulting from good production conditions

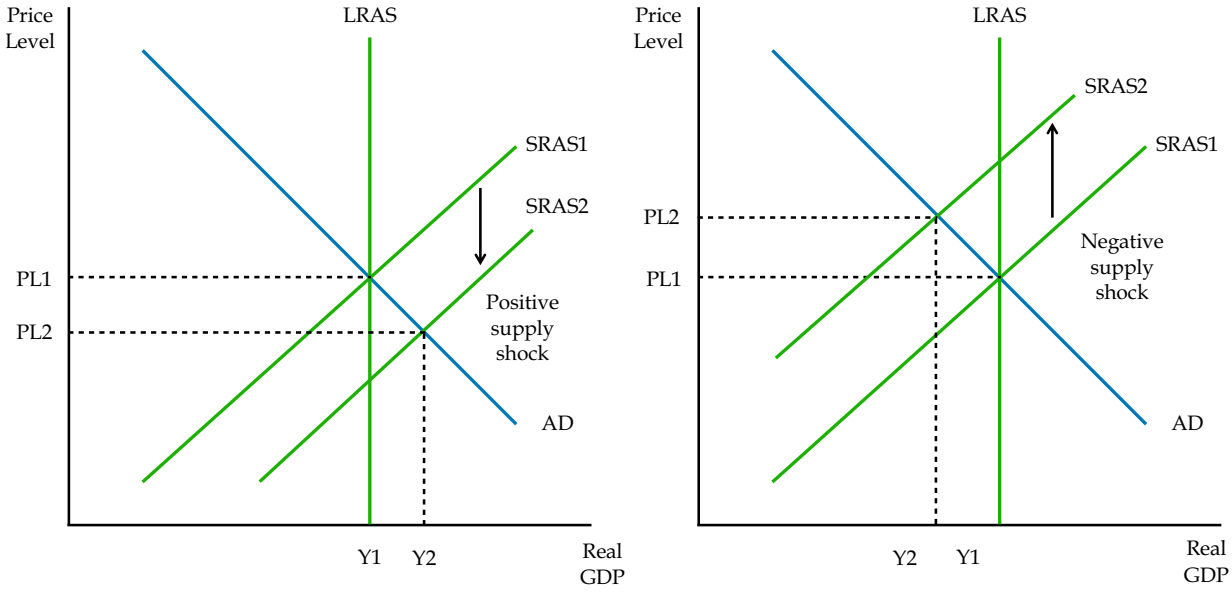


Figure 9.7: Positive and negative supply shocks

4. What is a negative demand shock?

Negative demand shock	
Impact on AD/AS model	AD shifts down and to the left
Cause/symptom	Falling demand
Impact on price level	Decrease
Impact on real GDP	Decrease

Examples
- Slower growth in export markets (e.g. China)
- Increase saving during lockdown due to reduced opportunities to buy
- End of mining investment boom
- Reduction in real incomes
- Fall in consumer confidence due to geopolitical uncertainty
- Rise in interest rates leads to reduced investment spending

5. What is a positive demand shock?

Positive demand shock	
Impact on AD/AS model	AD shifts up and to the right
Cause/symptom	Rise in demand
Impact on price level	Increase
Impact on real GDP	Increase

Examples
- Rise in net exports linked to faster growth in export markets
- Fall in household savings ratio after lockdown
- Increase in consumer confidence
- Increase in government spending e.g. on welfare and social security
- Fall in interest rates encourages planned investment spending

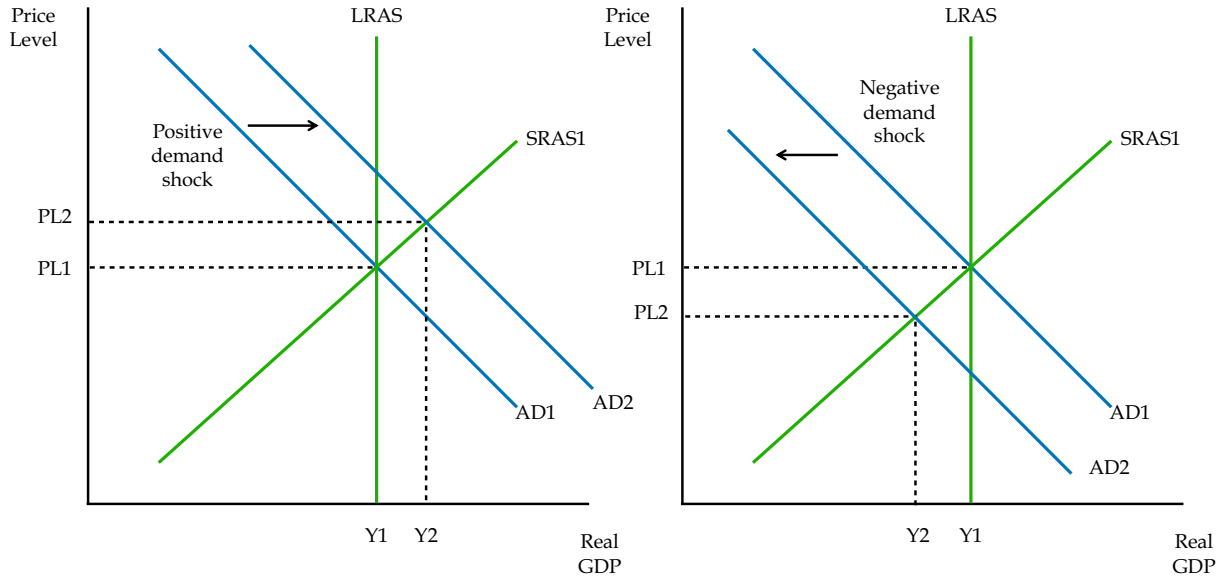


Figure 9.8: Positive and negative demand shocks

6. What happens when there is a multi-action shock or a combination of shocks?

It can be quite complicated using the AD/AS model to capture the impact of a shock on the economy given the multiple and dynamic effects taking place. In many cases a shock will affect both aggregate demand and aggregate supply. For example, a 50% fall in the price of oil will increase aggregate demand by increasing real incomes and increase aggregate supply by reducing energy and transport costs. It may be helpful to think in terms of primary or main impacts and secondary or side impacts when describing the effects of a shock. Remember, however, economic models are designed to be simplified versions of reality and making something more realistic doesn't necessarily make it easier to understand.

Examples of the dual impact of selected economic shocks are shown in the table below.

Autonomous shock	Impact on aggregate demand	Impact on aggregate supply
A rise in oil prices.	Decrease (reduced real incomes left for other consumption)	Decrease (higher costs of production)
A fall in inwards foreign direct investment.	Decrease (fall in planned investment)	Decrease (loss of efficiency and business knowledge)
A fall in the exchange rate value.	Increase (rise in net exports)	Decrease (rise in cost of imported components)
A trade war between US and China.	Decrease (fall in exports to China)	Decrease (rise in cost of components)
Climate Change.	Increase (rise in investment in renewable energy)	Decrease in ability to supply some products
A rise in Australia's terms of trade.	Increase (rise in real incomes, rise in net exports)	Decrease (rise in domestic inflation and wages)
Increase in labour productivity.	Increase (more competitive exports)	Increase (more output for a given level of inputs)

Student Activity 9.4

1. Complete the following table.

	Demand-side shock	Direction of shift in AD (left or right)	Impact on growth	Impact on unemployment	Impact on inflation
(a)	Rise in government spending				
(b)	Fall in exports to China				
(c)	Rise in household saving				
(d)	Rise in interest rates				
(e)	Rise in business expectations				

2. Complete the following table.

	Supply-side shock	Direction of shift in SRAS and/or LRAS	Impact on growth	Impact on unemployment	Impact on inflation
(a)	Increase in labour force				
(b)	Fall in energy costs				
(c)	Rise in unit wage costs				
(d)	Prolonged drought				
(e)	Rise in investment				

9.6 BUSINESS CYCLES AND THE AGGREGATE DEMAND AND AGGREGATE SUPPLY MODEL

1. Are business cycles caused by changes in aggregate demand?

The AD/AS model can be used to illustrate the various stages of the business cycle.

- In a slump aggregate demand is relatively low and the output gap is large. The level of real GDP is relatively low as is the price level.
- In a recovery aggregate demand increases and the output gap is reduced. Real GDP grows and the price level starts to rise.

- In a boom aggregate demand is relatively high and the output gap is small. The level of real GDP is relatively high as is the price level.
- In a downturn aggregate demand decreases and the output gap increases. Real GDP and the price level fall.

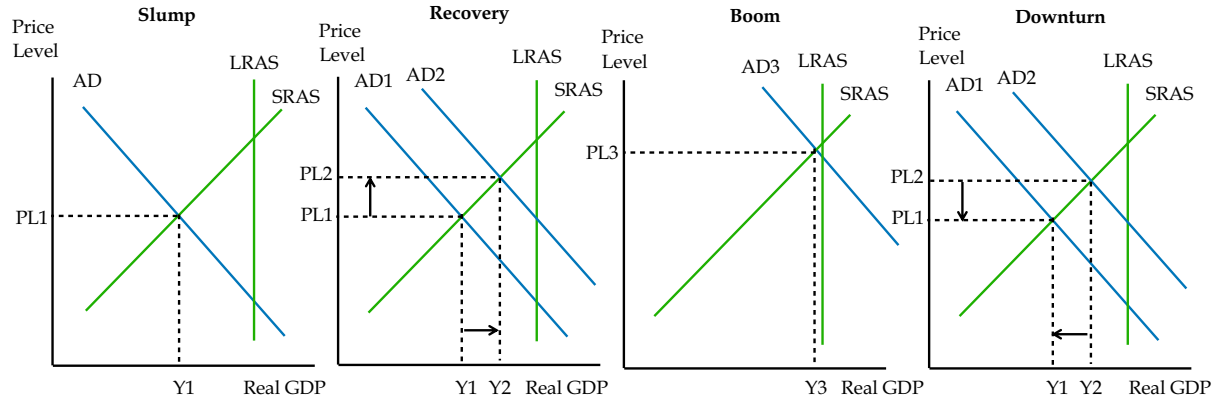


Figure 9.9: AD/AS models during the economic cycle

2. What has happened to the multiplier?

It is not easy to see the multiplier process in aggregate demand and aggregate supply models. There is no equivalent to the step-by-step aggregate expenditure diagram. An autonomous change in aggregate expenditure will still lead to a bigger overall rise in real GDP but the autonomous change and the subsequent induced multiplier changes are built into the shift in the aggregate demand curve. For example, in the recovery diagram above the shift from AD1 to AD2 includes both the autonomous and the induced changes. It would be possible to show all the interim stages between AD1 and AD2 but the diagram would become very cluttered and difficult to interpret.

9.7 THE RELATIONSHIP BETWEEN THE MODEL AND THE PHILLIPS CURVE

A Phillips Curve shows the relationship between inflation and unemployment. The basic curve suggests there is an inverse relationship between the two. So a rise in unemployment will be accompanied by a fall in the price level and vice versa.

Figure 9.10: LHS = Simple Phillips Curves; RHS = AD/AS models.

- The relationship between the Phillips Curve and the short-run aggregate supply curve is shown in fig. 9.10. The Phillips curve is a reflection of the short-run aggregate supply curve because unemployment and real GDP are inversely related.
- In the real world the Phillips Curve is constantly on the move. For example, fig 9.10 is consistent with changes in the pandemic when aggregate demand fell (from AD1 to

AD2) and aggregate supply fell (AS1 to AS2) causing the Phillips Curve to shift (from PC1 to PC2). The economy moved from point 1 to point 2 and then point 3.

- Economists think the trade-offs shown on Phillips Curves exist only in the short-term. In the long term economies self-adjust towards the natural rate of unemployment or potential level of GDP. There is no long-term trade-off because the long-run Phillips Curve and LRAS are vertical, suggesting there are many price levels consistent with 'full employment'.
- In Fig 9.11 the blue line shows wages growth and unemployment between 1998 and 2014 (1998 on the lower right and 2014 on the top left) and the green lines shows actual and projected data for 2015 to 2024 (entering in 2014, rising to 2019 and falling to the lower right in the 2020–21 recession.

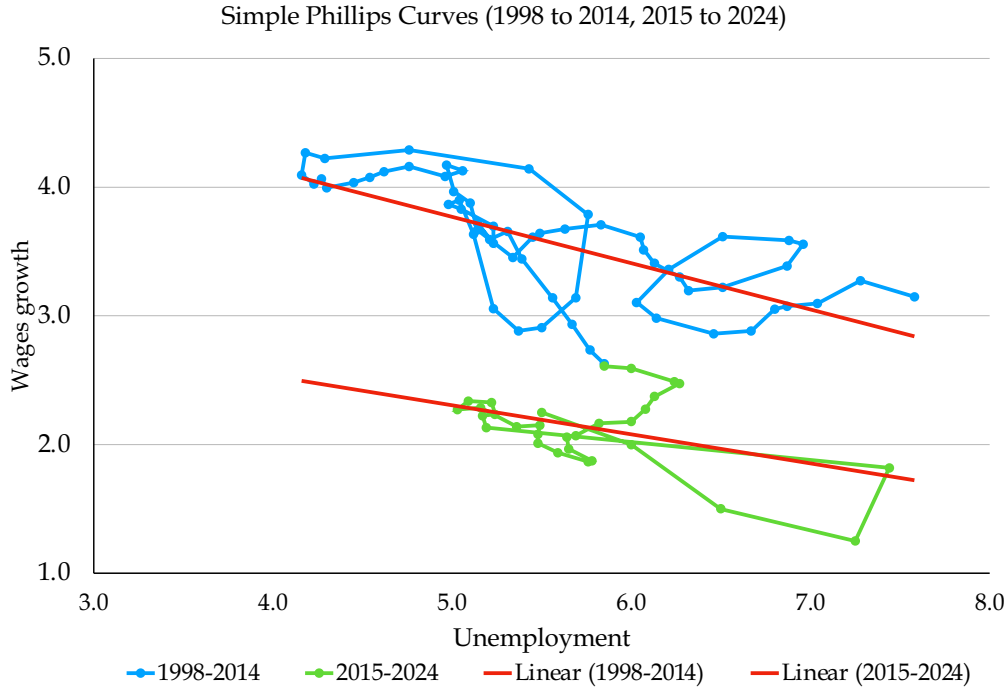


Figure 9.11: A shift in the Phillips Curve

Student Activity 9.5

1. Draw an aggregate demand and aggregate supply diagram to show the overall effect of climate change (e.g. warmer temperatures, reduced rainfall) on the Western Australian economy. Briefly, justify the changes you have shown on your diagram.

2. Draw an aggregate demand and aggregate supply diagram to show the overall effect of a major infrastructure development in Perth (e.g. Optus Stadium, Elizabeth Quay, Metronet, new beach facilities at Scarborough and City Beach). Briefly, justify the changes you have shown on your diagram.

3. Show how a change in unemployment can be indicated using the aggregate demand and aggregate supply model.

SO YOU THINK YOU UNDERSTAND AGGREGATE DEMAND AND AGGREGATE SUPPLY	
Difference between aggregate demand and aggregate expenditure	**Short run equilibrium** **Long run equilibrium**
Four components of aggregate demand 1 2 3 4	**Why AD slopes down to right** 1 2 3
Differences between aggregate demand and aggregate expenditure	**Short run equilibrium** **Long run equilibrium**
Aggregate supply	**Graph of short-run equilibrium**
Shifts in short run aggregate supply **Shifts in long-run aggregate supply** **Shifts in aggregate demand**	**Output gap** **Economic cycle**
Model and the macroeconomic objectives	**Link to Phillips Curve**

TEST YOUR KNOWLEDGE

Aggregate Demand and Aggregate Supply Multiple-Choice Questions

1. What term in economics is used for the total amount of goods and services produced in an economy at each price level?
   (a) Aggregate expenditure;
   (b) Aggregate demand;
   (c) Aggregate supply;
   (d) Real Gross Domestic Product.

2. A rise in the price level in the economy causes a contraction in aggregate demand because it causes:
   (a) an decrease in the real value of household wealth.
   (b) a fall in nominal interest rates.
   (c) a fall in the level of net exports.
   (d) a rise in the level of tax paid by business and households.

3. When there is a recessionary or output gap in the economy:
   (a) this will only be a temporary situation because production costs will fall and more workers will be employed.
   (b) this will be permanent situation because the economy becomes trapped in a deflationary spiral.
   (c) there will be an increase in cyclical unemployment and slower growth unless the government or Reserve Bank introduce measures to stimulate aggregate demand.
   (d) this will only be a temporary situation because firms will decrease aggregate supply to close the output gap.

4. What happens to long run aggregate supply when there is an increase in labour productivity?
   (a) Long run aggregate supply shifts in an upward direction.
   (b) Long run aggregate supply shifts in a leftward direction.
   (c) Long run aggregate supply shifts to the right.
   (d) Long run aggregate supply shifts to the left.

5. What happens to short run aggregate supply when there is an appreciation of the Australian Dollar?
   (a) Nothing, because the changes in the value the Australian Dollar only affect aggregate demand.
   (b) Short-run aggregate supply shifts up and to the left because imports have become more cheaper.
   (c) Short-run aggregate supply shifts down and to the right because imported resources and components become cheaper.
   (d) Short-run aggregate supply shifts up and to the left interest rates will fall.

6. When an economy is operating at the full employment (or potential) level of real GDP the long run aggregate supply curve:
   (a) is in the same position as the aggregate demand curve.
   (b) slopes diagonally down to the right.
   (c) slopes diagonally up to the right.
   (d) is vertical at the full employment level of real GDP.

7. Which one of the following, other things being equal, would lead to an increase in aggregate demand?
   (a) An increase in government spending on transport infrastructure.
   (b) An increase in imports of manufactured goods from India.
   (c) An increase in saving by households as a result of low consumer confidence.
   (d) A decrease in planned investment in the mining sector as a result in the fall in commodity prices.

8. What happens in the short run when there is a fall in aggregate demand without a change in aggregate supply?
   (a) The growth rate falls, cyclical unemployment falls and demand-pull inflation rises.
   (b) The growth rate falls, cyclical unemployment rises and demand-pull inflation rises.
   (c) The growth rate falls, cyclical unemployment rises and demand-pull inflation falls.
   (d) The growth rate rises, cyclical unemployment falls and demand-pull inflation falls.

9. The aggregate demand and aggregate supply model suggests that the result of a significant increase in the price of oil (and hence petrol) will be:
   (a) A rise in the price level and a rise in real GDP.
   (b) A fall in real GDP but the price level might rise or fall.
   (c) A rise in the price level but real GDP might rise or fall.
   (d) A fall in the price level and in real GDP.

10. Why does the 'willingness to supply' differ in the short run and long run?
   (a) In the short run wage costs are fixed but in the long run they can adjust to a shortage or surplus in the labour market.
   (b) A change in the price level will only affect profits in the long run.
   (c) There are recognition and decision-making time lags before producers can alter the level of output.
   (d) The price level in the economy can only be changed in the long run.

10 FISCAL POLICY

SYLLABUS CHECKPOINTS

- ☐ The concept of fiscal policy
- ☐ The macroeconomic policy objectives of the Australian Government
- ☐ The different budget outcomes i.e. balanced, surplus and deficit budgets
  - Different budget outcomes based on the relationship between the level of government spending and tax revenue.
- ☐ Reasons for differences between planned and actual budget outcomes
- ☐ Methods of financing a budget deficit and the impact of government debt
- ☐ The distinction between automatic fiscal stabilisers and discretionary fiscal policy
- ☐ The impact of expansionary and contractionary fiscal policy stances on the level of economic activity using the AE and AD/AS model
- ☐ Strengths and weaknesses of fiscal policy
- ☐ Fiscal policy stances in Australia over the last three years

ESSENTIAL GUIDE TO FISCAL POLICY	
1	Fiscal Policy involves changes in the level of government spending and taxation to directly and indirectly manage the level of aggregate demand in order to achieve the government's macroeconomic objectives.
2	The Budget Balance is the difference between the level of government expenditure and government revenue during the accounting period between 1st July and 30th June each year. Expenditure can be consumption (or recurrent) spending and investment (or capital) spending. Government revenue includes taxation, dividends, fees and fines.
3	If, during the accounting period, government spending is greater than government revenue the budget is in deficit. If, during the accounting period, government spending is less than government revenue the budget is in surplus. If they are equal the budget is balanced.
4	Two elements contribute to the headline budget balance, the cyclical balance and the structural balance. The cyclical balance varies during the economic cycle and provides automatic or built-in stability to the economy. The structural balance reflects discretionary changes made by the government.
5	Automatic fiscal stabilisation is not controversial. For example, the automatic fall in tax payments and the automatic rise in government spending on existing benefits and welfare programmes during the Covid-19 recession helped to support the economy.
6	Discretionary fiscal policy is more controversial. Keynesian economists believe in 'fiscal activism' to close an output gap. The case for Keynesian 'demand-side' intervention is based on the belief that (a) the economy will not self-adjust because prices in resource markets are 'sticky', (b) there is a positive spending multiplier effect and (c) there are no negative side effects (e.g. issues with government debt).
7	New-classical economists, however, argue that (a) the effective fiscal multiplier is small and may even be negative when side effects such as crowding out are taken into account, (b) excessive government debt does long-term damage to the economy and (c) supply-side measures ultimately determine changes in real GDP rather than demand-side measures. Hence, structural neutrality or a balanced budget over the life of the cycle, is appropriate. If debt has built up, a structural surplus will be needed to pay off the debt.
8	Supply-siders (or 'dries') believe that fiscal policy should concentrate on economic efficiency through reforms to the level and composition of government spending and taxation. They believe in 'small government' and tax rates that reward enterprise and endeavour.
9	Fiscal policy has different strengths and weakness compared to those of monetary policy. Fiscal policy has relatively long 'inside' lags (i.e. recognition, decision and implementation lags) but shorter 'outside' or effect lags. It is a more flexible policy option than monetary policy.
10	The main theme of fiscal policy during the period 2010–20 had been 'budget repair', i.e. eliminating budget deficits so that sovereign (or government) debt could be reduced. Since 2021 the theme of fiscal policy has been 'economic repair' and economic recovery.

10.1 THE CONCEPT OF FISCAL POLICY

1. What is fiscal policy?

Fiscal Policy involves the management of the level of aggregate demand through changes in the level of government spending and taxation to directly and indirectly to achieve its macroeconomic objectives. Hence, fiscal policy is a fundamentally a demand-side, counter-cyclical policy. However, changes to taxation and government spending can also affect the supply-side of the economy.

Through its fiscal policy measures the government aims to:

- **Redistribute incomes:** It uses the tax and transfer system to produce an income distribution that is fairer than the distribution that would be generated in a totally free market economy.
- **Prevent or fix up market failure:** It regulates markets (e.g. to reduce monopoly power, to control negative externalities, and to ration the use of common property resources) and allocates resources to the production of public and merit goods and services (e.g. infrastructure, education, healthcare and defence).
- **Manage aggregate demand:** It manages the level of aggregate demand in an attempt to achieve its macroeconomic objectives including inclusive economic growth, price stability and full employment.

2. What are the main instruments of fiscal policy?

Taxation

Taxes are levied on various 'tax bases'. The term tax base refers to the form or kind of economic activity that is being taxed, e.g. earning income, earning profits or spending money.

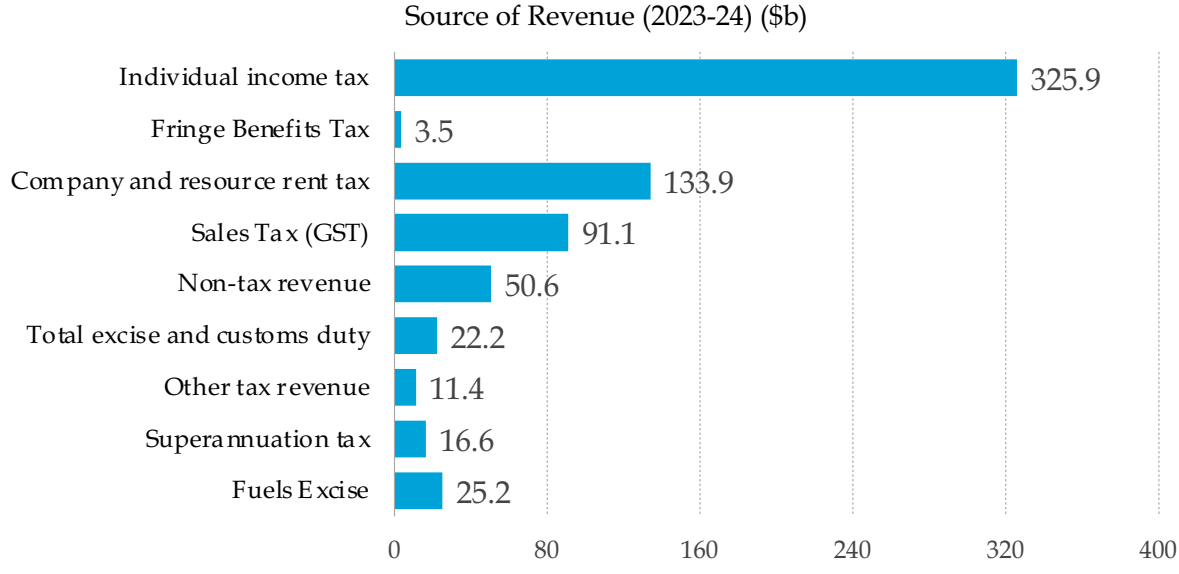


Figure 10.1: Sources of government revenue. Data source: Budget papers.

- **Direct taxes:** Direct taxes are taxes levied on incomes and wealth where the incidence or burden of the tax cannot be passed on by the taxpayer to someone else. Examples of direct taxes include income tax and company tax.
- **Indirect taxes:** Indirect taxes are taxes levied on consumption, transactions, production and use of products where the impact of the tax can be passed on by the taxpayer to someone else. Examples of indirect taxes include Goods and Services Tax (GST) and excise duties on the production of alcohol, tobacco and petrol.

The government has other sources of revenue including:

- **Profits:** The government owns some businesses (e.g. the Australian Submarine Corporation and the Reserve Bank of Australia). When these earn a profit they create revenue for the government.

- **Sale of assets and earnings of funds:** When government businesses or assets are sold to buyers in the private sector the government receives money (e.g. from land sales). A number of the government's special funds (e.g. the Future Fund) earn investment income.
- **Non-tax revenue:** Some money is collected from fees and fines (e.g. from the courts).

Government spending

Government spending can be classified as:

- **Current expenditure:** Day-to-day spending e.g. the wages of public servants.
- **Capital expenditure:** Spending on buildings e.g. hospitals and schools and infrastructure, e.g. ports, roads and rail.
- **Transfers:** Spending on pensions, welfare and social security.

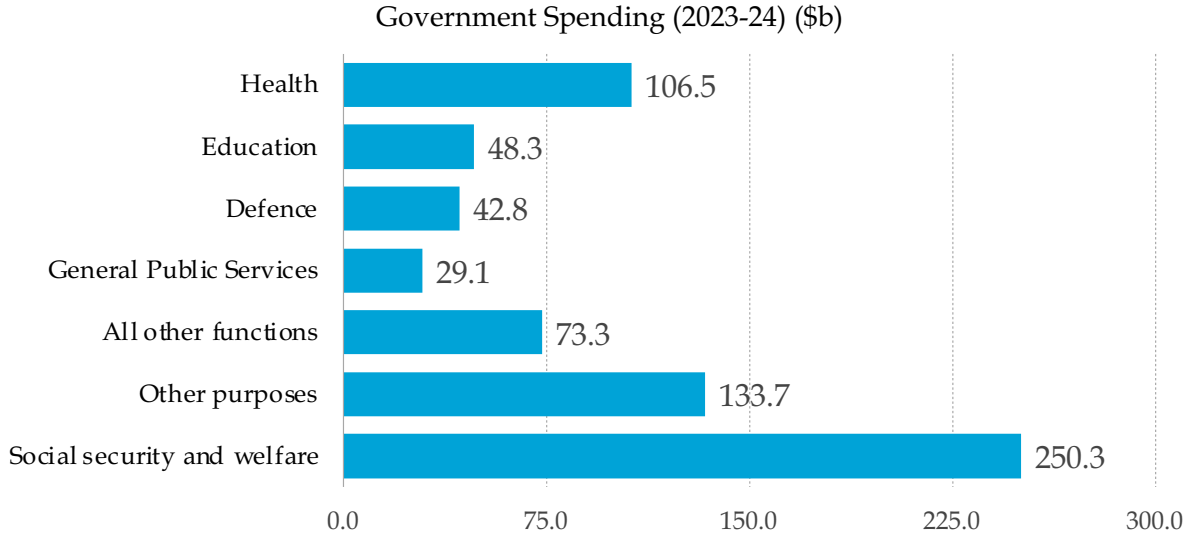


Figure 10.2: Main areas of government spending. Data source: Budget papers.

3. What is the Commonwealth Budget?

The Budget is a record of the Commonwealth Government's revenue and expenses over the accounting period (1st July and 30th June). The Budget indicates whether the government's revenue meets its spending requirements and whether the government is planning for a net injection into, or net withdrawal from, the economy during the next accounting period.

The Budget is compiled according to the Charter for Budget Honesty and conforms to international reporting standards. The Charter requires that the Budget:

- includes four well-accepted measures of fiscal flows – the underlying cash balance, the headline cash balance, the net operating balance and the fiscal balance (see below).
- provides a forecast and projection of the government's future financial performance, a list of assumptions on which forecasts and projections are based and a commentary on any factors likely to affect them.
- indicates the government's Medium Term Fiscal Strategy, along with shorter objectives and targets, in other words its fiscal stance for several years in the future.
- lists of proposals for changes to revenue and current and capital expenditure.

4. What are the four ways of measuring fiscal flows?

Government revenue and expenditure can be measured in a number of ways. The budget balance is affected by the way that any revenue and expenditure is classified. The four well-accepted measures of fiscal flows mentioned in the Charter for Budget Honesty are listed below.

Headline cash balance	Includes cash flows caused by all government spending and all sources of revenue (e.g. taxation, assets sales, fees and fines)
Underlying cash balance	Focus is on cash flows of government spending and taxation. Revenue from asset sales is excluded from revenue measure. Cash basis accounts recognise flows when a payment is made or received rather than when an 'economic event' or transaction takes place (e.g. when a submarine is paid for).
Net operating balance	Focus on recurrent or consumption spending and tax obligations, assessed on an accrual basis (e.g. the pay of submariners). It, therefore, excludes government expenditure on capital items (e.g. the submarine). Accrual basis accounts recognise flows when the 'economic event' or transaction takes place, rather than when payment is made or received (e.g. when submarine is ordered or delivered).
Fiscal balance	Net operating balance plus capital expenditure.

The different measures of fiscal flows reflect:

- Different accounting bases used to measure spending and revenue (e.g. cash flow basis or accrual basis).
- Different definitions of spending and revenue with different inclusions and exclusions (e.g. capital expenditure and capital depreciation).
- Different uses of the budget information (e.g. to see whether the government is living within its means and to see whether the level of government debt is changing).

	2022–23 Estimates		2023–24 Estimates		2024–25 Estimates	
	$b	% GDP	$b	% GDP	$b	% GDP
Underlying cash balance	4.2	0.2	-13.9	-0.5	-35.1	-1.3
Receipts	635.6	25.0	668.1	25.9	671.2	25.2
Payments	631.4	24.8	682.1	26.5	706.3	26.8
Gross Debt	887.0	34.9	923.0	35.8	958.0	36.5
Net Debt	548.6	21.6	574.9	22.3	620.6	23.5
Net operating balance	9.0	0.4	-3.7	-0.1	-38.0	-1.4
Net capital investment	10.4	0.4	10.4	0.4	7.2	0.3
Fiscal balance	-1.5	-0.1	-14.1	-0.5	-45.3	-1.7

5. What measures are emphasised in the Australian Budget?

Australia's Commonwealth budget emphasises two measures:

- Fiscal balance (i.e. accrual accounting basis, includes only underlying revenue flows (i.e. not asset sales and future fund revenue), and includes all recurrent (consumption) and capital spending.
- Net operating balance (i.e. accrual accounting basis, includes only underlying revenue flows, and includes recurrent (consumption) payments but not payments for capital assets. The net operating (or recurrent) balance shows whether or not the government is paying its way on a year–by-year basis.

6. What is the difference between a deficit, surplus or balanced budget?

There are three possible budget outcomes.

Budget outcome	Relationship between spending and revenue		Impact on government or sovereign debt
Budget deficit	Government spending greater than government revenue	G > T	Increase in debt
Balanced budget	Government spending equals government revenue	G = T	No change to debt
Budget surplus	Government spending less than government revenue	G < T	Reduction in debt

7. **How does the Government finance a budget deficit?**
The government can finance a budget deficit by:
- **Selling government bonds:** Government bonds are effectively government IOUs. They compete with other securities for savings or 'loanable' funds. Australian Government Bonds are considered to be very safe securities and although the yield on the bonds is relatively low, the bonds remain attractive to investors. Bonds may be bought by Australian residents or by non-residents.
- **Borrowing from the Reserve Bank:** Essentially the Reserve Bank 'prints money' or increases its holdings of Government securities.
- **Selling assets:** Privatising businesses or selling off other assets owned by the Government.

8. **What does the government do with a budget surplus?**
When the Government has a budget surplus it can:
- **Pay off (or retire) some its public or sovereign debt:** If the debt is owed to Australians, debt repayments may increase money in domestic bank deposits and, in turn, create more spending (weakening the impact of the surplus). If the debt is owed to non-residents total financial liabilities are reduced, net incomes outflows are reduced and foreign currency has to be purchased.
- **Hold the funds:** Deposit them in the Reserve Bank.
- **Establish special funds (or 'hollow-log'):** Money can be used to create special purpose funds. Currently Australia has a 'Future Fund' (to allow the payment of superannuation entitlements of public servants), an 'Education Investment Fund' (providing money for universities), and a 'Building Australia Fund' (providing money for transport and broadband infrastructure).

Student Activity 10.1

1. What is fiscal policy? What are the policy objectives and the policy variables of fiscal policy?

2. Which of the components of aggregate demand are (a) directly affected by fiscal policy and (b) indirectly affected by fiscal policy?

Direct impact	Indirect impact

3. In calculations of the budget balance, what is the difference between the following?

(a) Underlying and headline measures?

(b) Cash flow and operating result (accrual) measures?

4. Complete the following table by calculating the headline and underlying balance and stating whether the budget was in surplus, balanced or in deficit.

	Government payments (Spending)	Government receipts (Revenue)	Assets sales and fund earnings	Headline balance	Underlying balance	Surplus, balanced or deficit?
Year 1	$411b	$390b	$5b			
Year 2	$425b	$403b	$7b			
Year 3	$440b	$408b	$3b			

5. What is the difference between a direct tax and an indirect tax? Give examples of direct and indirect taxes.

6. Distinguish between current government expenditure, capital government expenditure and transfers. Give examples of each type of expenditure.

7. Use the data provided in the charts to identify the main sources of (a) government revenue and (b) areas of government expenditure.

8.

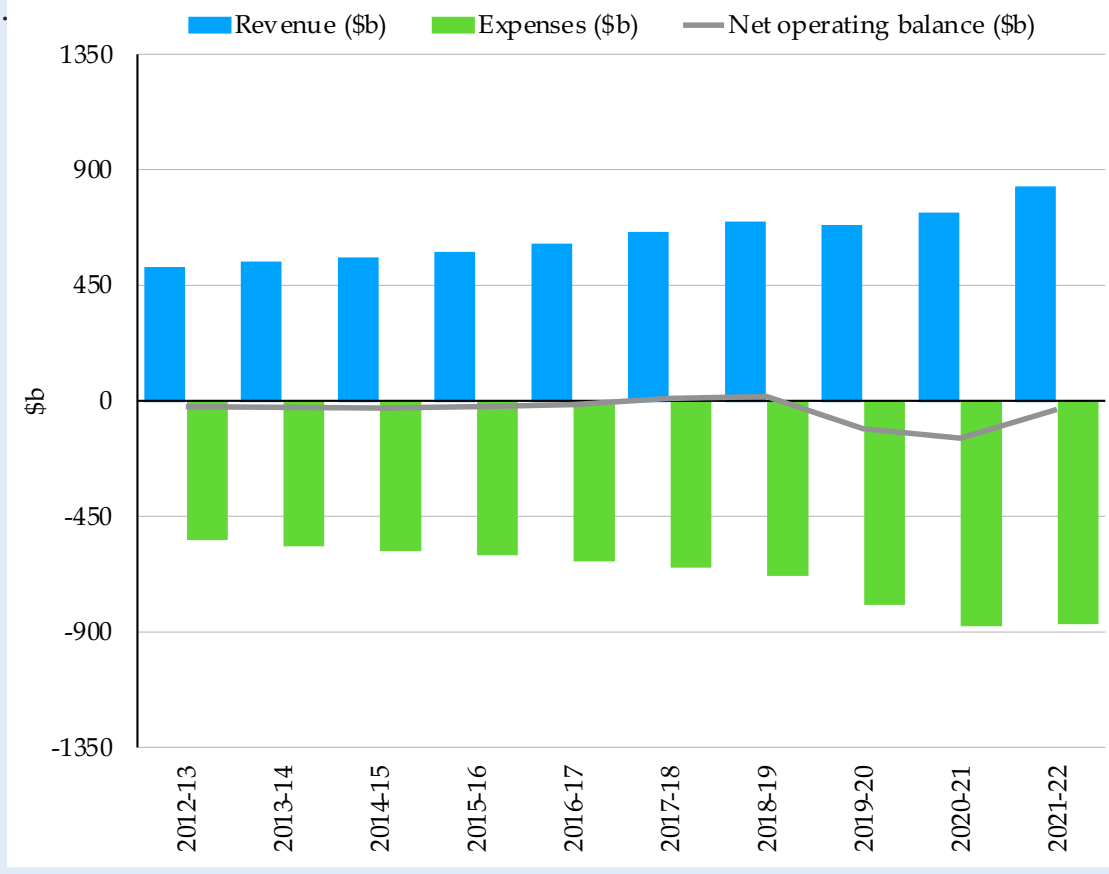


Figure 10.3: Government revenue, expenses and net operating balance. Data source: ABS

The chart shows the level of revenue, expenses and the net operating balance between 2012–13 and 2021–-22.

(a)	Identify when the budget was in deficit during this period.	
(b)	What was the main cause of the steep fall in the net operating balance in 2020–21.	
(c)	During this period estimate (i) the largest budget deficit recorded and (ii) the largest surplus recorded.	
(d)	State the main ways the government has financed it's budget deficits between 2019–20 and 2021–22	

10.2 THE IMPACT OF FISCAL POLICY ON THE ECONOMY

1. **What is the difference between the cyclical and structure balance of the budget?**
The overall budget balance has two parts:
   - **Cyclical balance:** Cyclical changes in government spending and taxation result from changes in the level of economic activity. For example, in an economic recovery revenue from company, income and GST taxes rises and government payments on welfare and income support fall. Cyclical changes automatically provide a degree of economic stability by increasing net injections when growth slows and increasing net leakages or withdrawals when growth increases.
   - **Structural balance:** Structural changes in government spending and taxation come from deliberate policy decisions made by the government for changes to allocative, regulatory or redistributive government spending and taxation. For example, the decision to increase spending on infrastructure, aged care and the National Disability Insurance Scheme (NDIS) in the 2021–22 budget led to structural changes in the budget outcome.

   In effect the structural balance shows what the budget is doing to the economy while the cyclical balance shows what the economy is doing to the budget.

2. **How do changes in the cyclical balance help to stabilise the economy?**
The cyclical balance automatically changes when the level of economic activity changes. This process is described as automatic fiscal stabilisation. This feature of fiscal policy is not controversial.

Change in income	Tax collection	Government welfare	Budget outcome
Rise in economic activity	Rises (e.g. more incomes, more profits, more spending)	Falls (fewer unemployed, fewer low paid workers)	Smaller deficits or bigger surpluses
Fall in economic activity	Falls (e.g. lower incomes, lower profits, less spending)	Rises (more unemployed, more low paid workers)	Bigger deficits or smaller surpluses

Fig 10.4 illustrates the impact of a change in economic activity on the level of tax revenue and government spending, and hence the cyclical budget outcome. The right hand diagram shows the effect of automatic stabilisation on the business cycle.

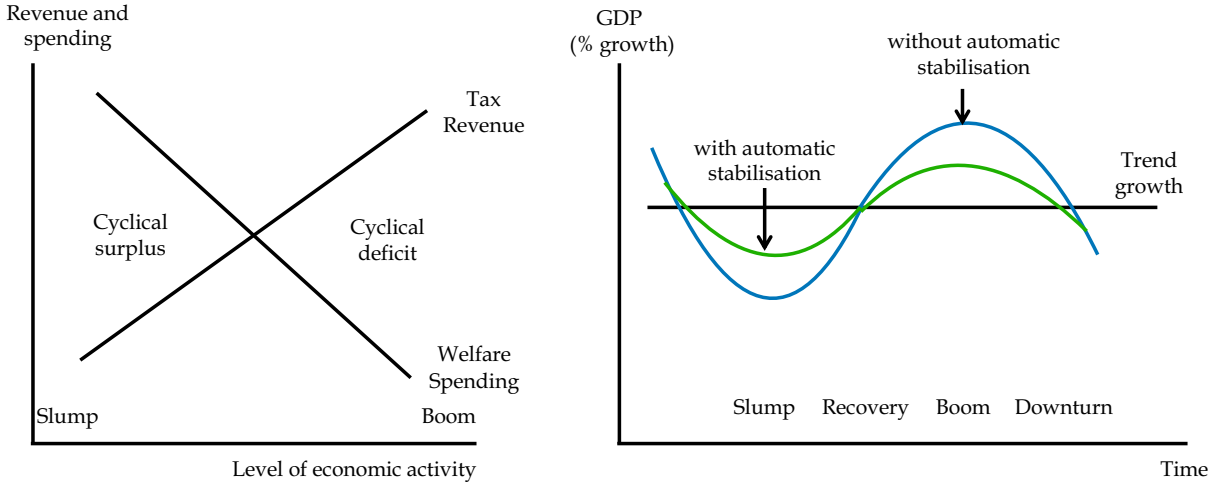


Figure 10.4: Automatic stabilisation

3. What determines the structural balance?

Allocative, regulatory and redistributive spending is said to be structural spending. Decisions about structural spending may be based on political considerations (e.g. the degree of government regulation), moral or ethical considerations (e.g. the range and level of welfare payments), security matters (e.g. the need for border security), demographic changes (e.g. the ageing of the population) and economic considerations (e.g. the government's macroeconomic objectives).

4. What is discretionary fiscal policy?

Discretionary fiscal policy measures involve deliberate changes to structural government spending and tax rates.

Budget outcome	Tax collection	Government spending	Change in income	Description
Smaller deficits or larger surpluses	Higher tax rates	Cuts in government spending	Reduces economic activity	Contractionary
Bigger deficits or reduced surpluses	Lower tax rates	Increases in government spending	Increases economic activity	Expansionary

5. Is the budget stance the same as the budget outcome?

The term 'budget stance' refers to the intended impact of fiscal policy on the level of economic activity. The budget stance, therefore, refers to changes in the structural budget balance. It is not the same as the overall budget balance which includes cyclical effects. Cyclical balances cancel each other out during an economic cycle. The budget stance can be described as:

- **Expansionary:** If there is a reduction in the structural surplus, a shift from surplus to deficit in the structural balance, or a rise in the structural deficit the impact on the economy will be expansionary.
- **Neutral:** If the structural outcome is the same as the outcome in the previous time period the impact on the economy will be neither expansionary nor contractionary
- **Contractionary:** If there is an increase in the structural surplus, a shift from deficit to surplus in the structural balance, or a fall in the structural deficit the impact on the economy will be contractionary.

6. **What is meant by the term 'structural neutrality'?**
The government's budget is said to be structurally neutral if tax revenue is equal to structural spending levels. Over the life of the cycle there will be no change in the level of government debt because the cyclical balance will add to zero over the cycle.

Student Activity 10.2

1. What is the impact on the economy of a change in the cyclical budget balance?

2. What is the difference between the budget outcome and the budget stance?

3. If a government adopted a fiscal policy which was structurally neutral what would happen to government debt over the life of an economic cycle? Explain your answer. Should governments always follow a policy of structural neutrality?

4. The table shows the recurrent or operating balance and the structural balance for a hypothetical economy over a period of six years.

	Recurrent balance	Structural balance	Overall balance
2018–19	-12b	-40b	-52b
2019–20	-10b	-44b	-54b
2020–21	-2b	-49b	-51b
2021–22	+2b	-40b	-38b
2022–23	+20b	-8b	-12b
2023–24	+28b	+16b	+12b

(a) In which year will this government be able to reduce the level of public or sovereign debt because it has a negative borrowing requirement?

(b) In which year will the government achieve (i) a recurrent or operational budget surplus and (ii) an overall budget surplus?

5. **Extract from 2022–23 Federal Budget**
The challenges facing Australia are growing – intense and frequent flooding, a substantial global economic slowdown, high inflation and rising interest rates. The nation is facing widespread skills shortages and falling real wages, and a budget burdened by one trillion dollars of debt and persistent structural deficits. The Government's plan is focused on responding to these challenges and building a better future for all Australians. This Budget delivers on the Government's commitments by providing responsible cost-of-living relief, building a stronger, more resilient and more modern economy and repairing the Budget to pay for what's important.

(a) Identify three challenges that will require additional government spending over the next five years or so.

(b) Explain the meaning of the term structural deficit and how the budget has become burdened by debt.

(c) Suggest three areas of government spending that could help build 'a stronger, more resilient and more modern economy'.

(d) State two measures that would help 'repair the budget'.

(e) Comment on the statement about 'repairing the Budget to pay for what's important'. What forms of current government spending are not important?

10.3 FISCAL ACTIVISM

1. What fiscal stance is recommend for a boom?

- Economists support a contractionary fiscal stance when the economy is in a boom phase. This requires the government to run a structural budget surplus to reduce the level of aggregate expenditure or aggregate demand. This may involve tax increases and/or reductions in government spending. The aim of the fiscal contraction is to provide a net leakage from the economy and set off a negative multiplier process.
- Ideally the combined effect of the stimulus and multiplier will close the inflationary gap (the excess amount of aggregate expenditure) and hence the negative output gap (the difference between actual real GDP and the full employment level of real GDP).

2. What fiscal stance is recommend for a slump?

- Economists support an expansionary fiscal stance when the economy is in a slump. This requires the government to run a structural budget deficit to provide a fiscal stimulus to the economy. This may involve tax cuts (e.g. income tax cuts and company tax cuts) and/or increased government spending (e.g. on transport infrastructure, health, education and business subsidies).
- Note that increased government spending has a quicker and more powerful impact on the economy than tax cuts (see point 5 below). The point of the fiscal stimulus is to provide a net injection into the economy and set off a multiplier process.
- Ideally the combined effect of the stimulus and multiplier process will close the deflationary (the shortfall in aggregate expenditure) and hence the output or recessionary gap (the difference between actual real GDP and the full employment level of real GDP).

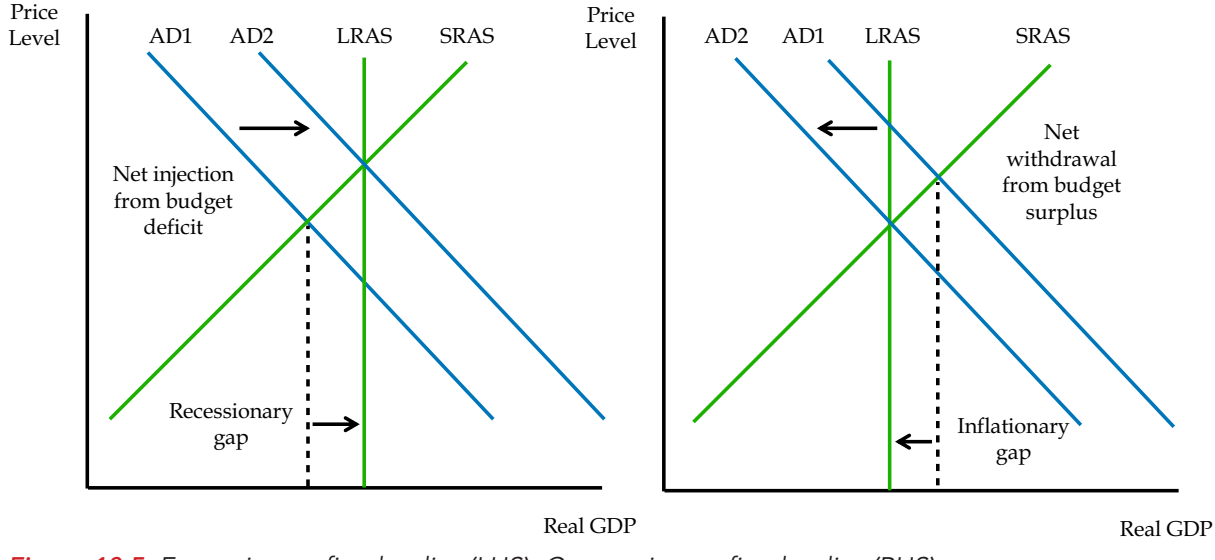


Figure 10.5: Expansionary fiscal policy (LHS), Contractionary fiscal policy (RHS)

3. Why do economists support fiscal activism?

Economists support 'fiscal activism' to deal with any shortage or surplus aggregate demand. The case for 'demand-side' intervention is based on three beliefs:

- The economy will not self-adjust (e.g. because prices in resource markets, especially the labour market', are 'sticky' and they do not often fall).
- There is a relatively strong multiplier effect.
- There are no negative side effects from the fiscal stimulus (e.g. from an increase in sovereign debt or from crowding out).

4. What affects the size of the Keynesian government spending multiplier?

The government spending multiplier suggests that the final change in economic activity (or real GDP) will be bigger than the change in government spending that caused it to happen. The size of the multiplier (k) depends on the slope of the aggregate expenditure

line (which in turn depends on the slope of the consumption function and the marginal propensity to consume). The formulae for calculating the multiplier (k) are:

$$k = 1/(1 - MPC) \text{ or } 1/(1 - (MPS + MPM + MPT))$$

If the size of the multiplier effect is big enough, it is possible that a fiscal stimulus can be self-financing. The rise in GDP triggered by the fiscal stimulus generates extra tax revenue and reduces some welfare or social security spending. The cyclical or automatic stabilisation helps move the budget into surplus and 'helps pay for' the stimulus.

5. Why is a change in tax less effective than a change in government spending?

Direct tax changes do not affect economic activity as much as changes in government spending. Direct tax changes alter disposable income. However, not all income is spent, so the change in spending is less than the amount of the tax cut. See table below.

Rise in government spending = $10b		Rise in aggregate demand = $10b	Multiplier coefficient = 2.5	Real GDP rises $10b x 2.5 = $25b
Cut in direct tax = $10b	Rise in disposable income = $10b	Rise in consumption if MPC is 0.6 = $6b	Multiplier coefficient = 2.5	Real GDP rises. $6b x 2.5 = $15b

In this example the taxation multiplier coefficient is 1.5 (the final change in income was $15b as a result of direct tax changes of $10b). The taxation multiplier coefficient is always one less than the government spending multiplier. Try proving it mathematically!

The impact of simultaneous, equal changes in government spending and direct tax isn't neutral. The government spending multiplier coefficient is always the size of the taxation multiplier coefficient plus one, so the overall 'balanced budget multiplier coefficient is always 1 (regardless of the level of the marginal propensity to consume). Therefore, the effect on economic activity equals the size of the change in government spending and direct tax change. For example, a simultaneous cut in tax of $5b and reduction in government spending of $5b will reduce economic activity by $5b. The effect isn't neutral even though the budget remains in balance.

6. What is the significance of this?

The government needs to plan any stimulus program carefully to get its desired outcome. Some supply-side economists and right wing politicians believe the economy performs better when the level of government intervention is reduced, e.g. when tax rates are low and government spending is limited. Although the balanced budget multiplier suggests that cutting tax and government spending is deflationary supply-siders believe the deflationary impact will be offset by a dynamic lift in productivity and efficiency as a result of increased freedoms, incentives and rewards.

Student Activity 10.3

1. What fiscal stance is appropriate for an economy in a slump? Draw an Aggregate Expenditure (AE) diagram to show the impact on the economy of the this kind of fiscal stance.

2. Why do changes in government expenditure have a bigger impact on the level of economy activity than changes in direct taxation?

3. Assume the marginal propensity to consume in an economy is 0.6. There is an output, recessionary or GDP gap of $20b. At a cabinet meeting to discuss the situation the following proposals are put forward. Complete the table to show whose proposal was the best.

Minister	Proposal	Impact on economic activity
Treasurer	Increase government spending by $10b	
Prime Minister	Cut taxation by $10b	
Foreign Minister	Increase government spending by $8b	
Industry Minister	Increase government spending by $20b	
Environment Minister	Increase tax by $13.33b	

10.4 THE MEDIUM TERM FINANCIAL STRATEGY

1. What is a medium-term financial strategy (MTFS)?

Under the Charter for Budget Honesty the government is obliged to state its Medium term Financial Strategy (MTFS). The aim of the MTFS is to give some structure to the government's fiscal measures. For example, after the Global Financial Crisis in 2008–09 the MTFS had been to achieve budget surpluses, on average, over the course of the economic cycle to reduce the level of government debt over time. The MTFS was a policy for 'fiscal repair' and was sufficiently flexible to respond to changing economic conditions. The strategy had four elements:

- Controlling the level of government spending (which became known as fiscal austerity).
- Reducing the Government's share of economic activity over time to free up resources for use in the private sector.
- Keeping the tax-to-GDP ratio at or below 23.9%.
- Reducing the level of net debt over time to reduce debt interest payments.

2. What is fiscal austerity?

In economics, 'austerity' describes policies used by governments to reduce budget deficits and government debt. These policies involve spending cuts, tax increases, or a mixture of the two. The aim of 'fiscal austerity' is to:

- Avoid a build-up of government or sovereign debt and eventually to reduce it.
- Save on interest payments and avoid the opportunity cost of increased interest payments.
- Achieve 'crowding-in' (e.g. where private sector investment replaces public sector investment and interest rates and the exchange rate fall.
- Convince electors that the government is able to 'look after the books' in a responsible manner in order to increase business and household confidence.
- Allow resource markets time to bring about some self-adjustment in the economy

In Europe, austerity has been a requirement for countries seeking loans from the European Central Bank. The International Monetary Fund has also imposed austerity programs on countries seeking their funds (e.g. Greece and Argentina).

3. Why has the budget balance changed over time?

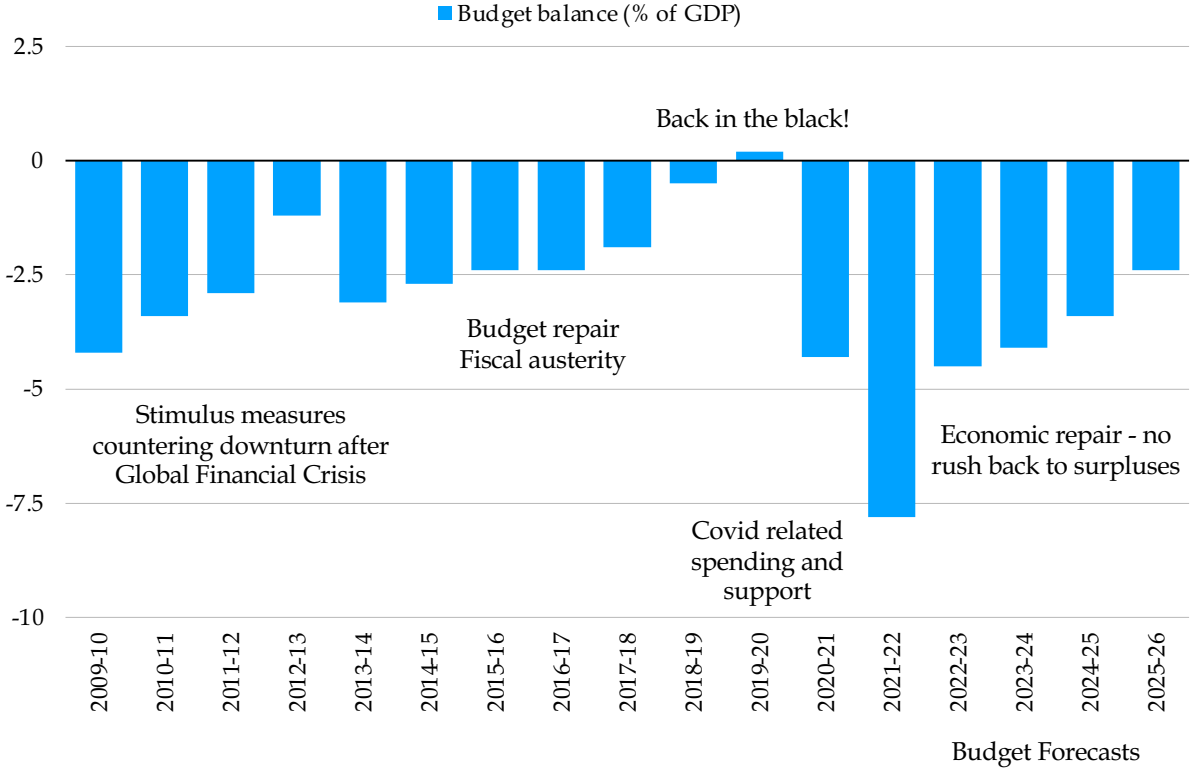


Figure 10.6: Source: Adapted from budget papers.

Figure 10.6 shows the MTFS was successful in reducing and then eliminating the budget deficit between 2009–10 and 2018–19. The Government went to the 2019 election proclaiming that the budget was 'back in the black'. However, the pandemic changed the situation and cyclical (automatic) and structural (discretionary) budget measures led to a big deficit. Since then governments have been in no rush to return the budget to surplus and have concentrated on economic (rather than budget) repair.

4. Why did the government suspend the MTFS?

There were a number of reasons why the government suspended its previous MTFS.

- The pandemic was an extraordinary situation causing one of the biggest shocks the economy had faced. There was clear evidence from history that the deeper and more protracted a downturn, the more severe the economic scars. These scars affect, for example, young people who can't get onto (or slip off) the jobs ladder, and who, therefore, experience an on-going loss of income and people who lose training opportunities with long-term consequences for their career prospects. During a downturn some businesses fail and reduce investment in physical capital and research causing damage to the fabric of economy.
- Although some commentators talked about a trade-off between health and wealth, in reality economic recovery couldn't be achieved without addressing the health crisis. The government would have faced big costs if it had failed to act, e.g. through higher unemployment payments and loss of tax. Spending on stimulus measures would be tapered as the economy recovered even though this would be mildly contractionary.
- It also made sense for the government to increase borrowing while interest rates were very low, e.g. at less than 1% for a 10 year bond.
- Federal budget deficits were not new. There have been deficits in 80% of the years since Federation. Despite the deficits, the level of Australian Government debt has remained low by international standards. The International Monetary Fund (IMF) agreed that Australia had the 'fiscal space' to run deficits.

5. Can you summarise the change in focus of fiscal policy?

	Era of Budget Repair (2010–19)	Era of Economic Repair (2020–25)
Context	End of mining investment boom. Legacy of Global Financial Crisis.	Easing of lockdown and travel restrictions during 2022. Cost-push inflation. Slower global growth and in China.
Main economic issues	Low-growth cycle. Wage stagnation. Low productivity growth. Slow recovery.	Avoidance of long-term damage to the economy (scarring) caused by the Covid recession. Swings in aggregate demand and supply.
Policy goal	Budget repair	Economic repair
Policy framework	Medium Term Fiscal Strategy (MTFS).	MTFS suspended until recovery established.
Fiscal policy stance	Neutral to mildly deflationary.	Mildly expansionary.
Policy setting	Move from budget deficits to budget surplus.	Reduction in budget deficits over time.
Policy targets	Long-run aggregate supply. Control of government debt.	Economic recovery. Structural spending on aged-care, infrastructure, childcare, NDIS, home ownership support.
Trade-offs	Deflationary impact of fiscal austerity.	Budget repair on hold. Climate change measures delayed.

	Era of Budget Repair (2010–19)	Era of Economic Repair (2020–25)
Role of monetary policy	Control of level of aggregate demand.	Increase in cash rate from record low levels during pandemic. Control of inflation.
Impact on AD/AS model	Increase in short-run and long-run aggregate supply.	Increase in aggregate demand.

Student Activity 10.4

1. Why does the government publish a Medium Term Financial Strategy? What are the main elements of the MTFS?

2. Why did the Government need to adapt the MTFS after 2020–21?

10.5 PROBLEMS LINKED WITH REGULAR STRUCTURAL DEFICITS

1. What problems arise if governments run structural deficits over several years?

Nearly all economists support fiscal stimulus measures when economies face extraordinary shocks such as the global financial crisis (2008–09) and the coronavirus pandemic (2020–21). However, the regular use of fiscal activism in more normal times leads to a number of problems including:

- Resource, financial, and net export crowding out (see point 2 below)
- Changes in the level of household savings (see point 3 below)
- A tendency for government spending to rise because of the expansionary bias of politicians (see point 4 below)
- Sovereign debt issues (see point 5 below)

2. What is crowding out?

There are different forms of 'crowding out'.

- **Resource crowding out:** This happens when government spending replaces planned private investment spending that would have taken place anyway. For example, the Government provided investment capital for Australia's broadband network although it would have been financed by the private sector. There was no extra injection into the circular flow, just a switch from the private sector to a government sector. Resource crowding out weakens the economy because, typically, the private sector uses resources more productively and adds more value than the public sector.
- **Financial crowding out:** Fiscal stimulus leads to extra government borrowing. Government borrowing adds to the demand for savings and leads to a rise in interest

rates. Higher interest rates, in turn, reduce the level of planned investment. This offsets some of the effect on aggregate demand of the fiscal stimulus.
- **Net-export crowding out:** The rise in interest rates caused by financial crowding out leads to an appreciation of the value of the Australian Dollar. This makes Australian suppliers less competitive in both export and import markets. This drop in net exports, again, offsets some of the impact of the fiscal stimulus.

However, during the period of economic repair, crowding out seems unlikely, given the level of uncertainty in the global economy, the ability to fund government debt on reasonable terms and the influence of commodity prices and the terms of trade on the exchange rate.

3. **Why might households save more when the government runs a budget deficit?**
Households may increase the level of saving when the government runs a budget deficit because they worry that the government has lost control of their finances and taxes will have to rise to pay for the increase in government debt. This logic is supported by:
- **Income Life cycle hypothesis:** This states that consumers aim to smooth their consumption over the course of their life. So, for example, if consumers anticipate a rise in taxes in the future they will save any current tax cuts to be able to pay future tax rises. The consumption function becomes flat.
- **Rational expectations on behalf of consumers:** It is argued that if the government borrows money to fund a tax cut, rational consumers realise in the future taxes will have to rise to finance the borrowing. Therefore, they save the extra income so that they can pay future tax rises.

4. **Why is the expansionary bias of politicians a problem?**
Politicians like to spend money rather than make spending cuts (or plan savings). In a three year election cycle governments may be tempted to 'buy votes' when in office rather than take appropriate economic decisions. Debt builds up over time if spending is preferred to saving.

5. **Why can an increase in the level of government debt be a problem?**
Persistent structural budget deficits lead to a rise in sovereign (or government) debt. The rise in sovereign debt may lead to:
- **A fall in the country's credit rating:** A fall in the country's credit rating causes an increase in the future cost of borrowing and, hence, a reduction in the level of planned investment.
- **A debt trap:** Debt means interest payments. Interest payments mean extra government spending which may increase debt further.
- **Opportunity cost:** Servicing the debt (e.g. making interest payments) reduces the money the government can spend elsewhere in the economy, e.g. on schools and hospitals.
- **Vulnerability in a crisis:** It might be difficult to rollover or sustain the debt in a crisis.

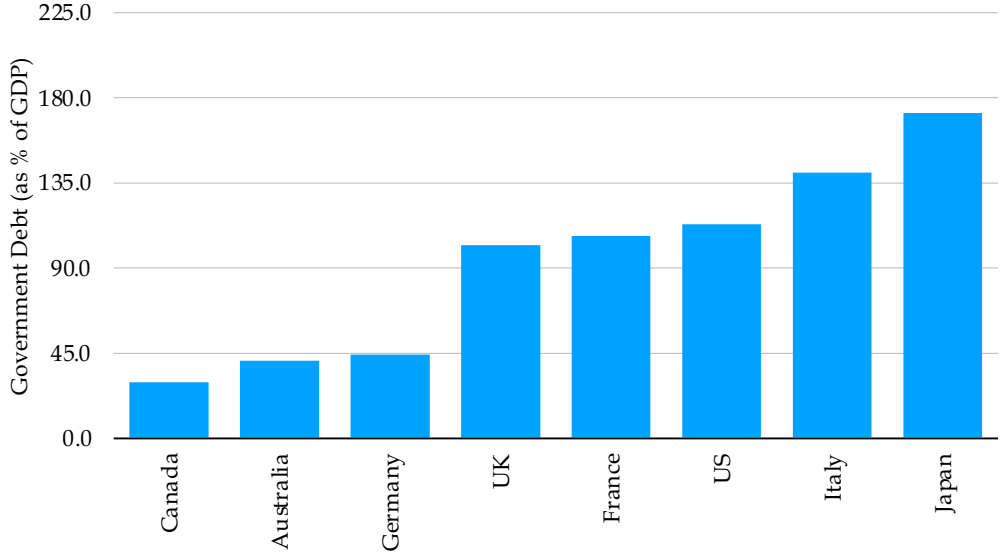


Figure 10.7: Data source OECD

Figure 10.7 suggests that Australian Government debt is low by international standards and close to the average of AAA rated countries. Net debt is set to peak at 40.9% of GDP in 2024/25 which is lower and earlier than expected at the start of the pandemic. Over time economic growth and inflation will reduce the real debt burden on future generations.

Other funding options, such as raising taxes and the creation of 'helicopter money' by the Reserve Bank, were deemed unpalatable. Putting debt and deficit before growth and employment is now considered an out-dated way of thinking because austerity is deflationary or contractionary even when budgets are in deficit.

Student Activity 10.5

1. What is resource crowding out? Give an example of government spending that may have simply replaced private sector spending.

2. What is financial crowding out? What happens to interest rates if the government increases its level of borrowing? Use diagrams to show the process of financial crowding-out. (Include market for loans, investment demand curve diagram and an aggregate demand/aggregate supply diagram).

3. Explain the significance of crowding out.

4. Do you think it likely that a rise in government borrowing will lead to a fall in household saving?

5.

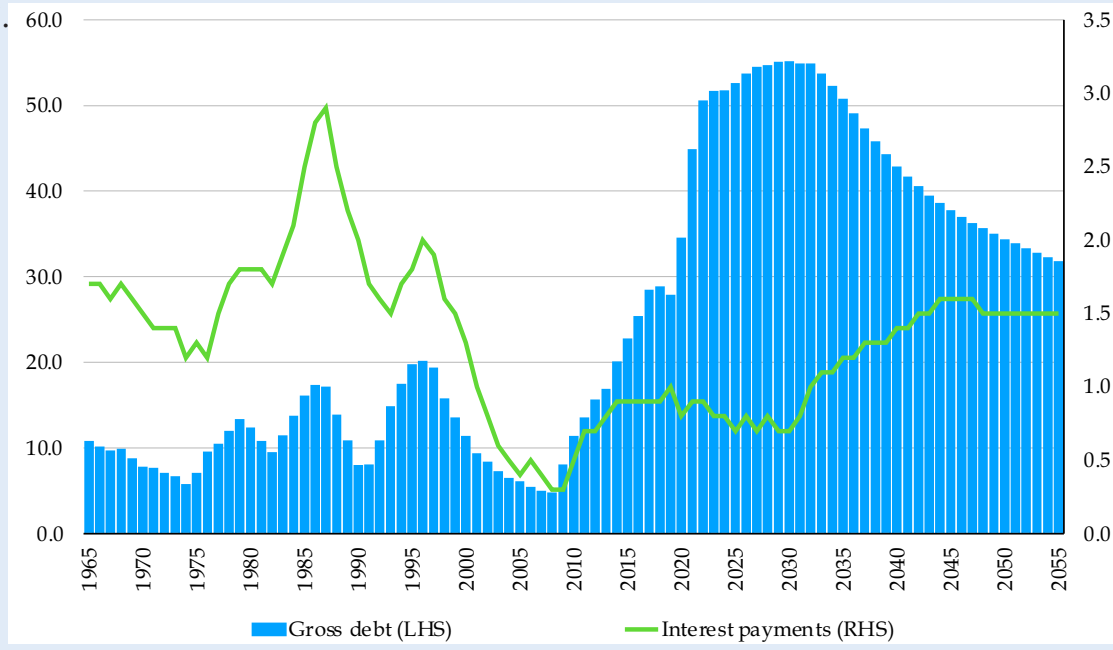


Figure 10.8: Source: Australian Treasury

(a)	Describe the actual and forecast changes in the level of gross debt between (i) 2010 and 2020 and (ii) 2020 and 2030.	
(b)	Describe why the level of net government debt rose during the Covid-19 recession.	
(c)	Explain why the level of interest payments on the debt has not kept pace with the level of net government debt.	
(d)	State why this level of debt is not considered to a matter of great concern?	

10.6 TIME LAGS

1. **What are the time-lags associated with fiscal policy?**

Fiscal policy has long **inside lags** that include:

- **Recognition lags:** Recognition time lags are detection, data, observation and 'wait and see' time lags. They refer to the time taken to notice trends in the economy.
- **Decision lags:** Decision lags refer to time taken to come to a decision about what needs to be done.
- **Implementation lags:** These refer to time taken to make the required changes. They are legislative, action or execution lags. Without control of parliament these lags have been very long for recent Australian governments.

The main **outside lag** is the effect lag.

- **Effect lags:** Effect or impact lags refer to the time taken before changes to fiscal flows affect the economy. The length of effect lag varies according to the type of government spending or tax change. In general, changes to government spending work faster than tax changes.

10.7 THE ROLE OF FISCAL POLICY OVER THE NEXT FEW YEARS

The role of fiscal policy over the next few years will be to continue the process of economic repair although the government has to balance the goals of higher growth with price stability. Growth has been slowing down as the Reserve Bank uses a higher cash rate to combat inflation but the government has provided some cost-of-living support to households (e.g. through an increase in the JobSeeker allowance and electricity subsidies) and has received some windfall taxation from higher commodity export prices. Government debt has become more expensive to service given higher international interest rates.

Student Activity 10.6

1. Describe, in the order they occur, the time lags involved in using fiscal policy to control aggregate demand. Why can time lags make fiscal policy destabilising?

2. Explain why politicians might have 'an expansionary bias' when it comes to fiscal policy? Why might this bias cause problems?

3. What is fiscal austerity? Explain why, austerity may be the preferred fiscal option even when growth is 'below trend'.

4. Describe the conditions that must be present for the economy to 'self-adjust'. Draw an AD/AS diagram to show the self-correction process when the economy has a recessionary gap.

5. Decide whether the following are strengths or weaknesses of fiscal policy.

	Feature	Is it a strength or weakness?
(a)	Built-in automatic stabilisation	
(b)	Long inside lag	
(c)	Short outside lag	
(d)	Political neutrality	
(e)	Effect dampened by 'crowding out'	
(f)	Flexibility to treat sectors differently	
(g)	Direct	
(h)	Can target variety of groups or problems	
(i)	Complexity	

6. State three macroeconomic indicators that could have supported a case for a more expansionary fiscal policy stance before the pandemic.

_____

_____

_____

SO YOU THINK YOU UNDERSTAND FISCAL POLICY

Two main policy instruments
1
2

Three possible budget outcomes
1
2
3

Headline and underlying?

'Cash flow' and 'operating result'

Ways of financing a deficit
1
2
3

Three things to do with a surplus
1
2
3

Main taxes and sources of revenue
1
2
3
4
5

Difference between current and capital expenditure?

Five main areas of government spending
1
2
3
4
5

Cyclical and structural balance

Length of time lags linked to fiscal policy
1
2

Balanced budget multiplier

Why is tax multiplier lower than government spending multiplier?

Fiscal stance for:

Issues with fiscal activism
1
2
3
4
5

Three types of crowding-out
1
2
3

Problems with government debt
1
2
3
4

Criticisms of non-active fiscal policy
1
2
3

Four reasons for passive fiscal policy
1
2
3
4

What was budget repair?
1
2

Why was budget repair difficult?
1
2
3

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TEST YOUR KNOWLEDGE

Fiscal Policy Multiple-Choice Questions

1. The fiscal policy goal of achieving a balanced budget over the life of the business cycle is called:
   (a) Structural neutrality.
   (b) Cyclical neutrality.
   (c) Trend growth.
   (d) Automatic stabilisation.

2. Which of the following is an example of a discretionary fiscal policy measure?
   (a) A rise in welfare payments in the downswing or slump stage of the business cycle.
   (b) A fall in taxation receipts during the downswing or slump stage of the business cycle.
   (c) A cut in company tax rates.
   (d) A rise in government spending on unemployment benefits during a downswing.

3. Which of the following is a correct statement about automatic fiscal stabilisation?
   (a) It ensures the budget balances on average over the life of the business cycle.
   (b) It involves a reduction of tax rates during economic downswings and an increase in tax rates during upswings.
   (c) There is a rise in social security or welfare payments when there is a fall in the level of economic activity.
   (d) It is the only form of automatic adjustment that takes place in the economy.

4. Which of the following will lead to the actual budget deficit being bigger than the planned (or forecast) budget deficit?
   (a) A bigger appreciation of the Australian Dollar than forecast.
   (b) A bigger rise in commodity prices and the terms of trade than forecast.
   (c) A lower than expected rate of economic growth in the economy.
   (d) A lower than expected rate of unemployment in the economy.

5. Which of the following is a correct statement about budget deficits?
   (a) Budget deficits raise government or sovereign debt.
   (b) Budget deficits can be eliminated through an increase in government spending.
   (c) Budget deficits can be reduced by asset sales and borrowing.
   (d) Foreign liabilities increase each year by the amount of the budget deficit.

6. Which of the following is NOT an explanation of Australia's budget deficits in the years during and after the Covid recession?
   (a) During the pandemic government spending fell and tax payments rose.
   (b) A fall in the terms of trade reduced income tax and company tax revenue.
   (c) Weak Chinese growth rates caused a decrease in foreign investment in Australia.
   (d) Getting the budget back to surplus too quickly would harm the economic recovery.

7. The composition of recent budget deficits includes
   (a) a structural and cyclical deficit
   (b) a structural balance and a cyclical deficit
   (c) a structural deficit and a cyclical surplus
   (d) a structural and cyclical surplus

8. A budget surplus of about 1% of GDP would lead to:
   (a) a reduction in government debt.
   (b) a rise in imports of goods and services.
   (c) a reduction in economic growth due to a crowding out effect.
   (d) a fall in the cash rate to reduce the level of economic activity.

9. The expansionary impact of a budget deficit may be offset by:
   (a) resource and financial crowding out.
   (b) higher primary income inflows on the current account of the balance of payments.
   (c) a fall in the exchange rate and a rise in net exports due to financial crowding out.
   (d) increased consumption and reduced saving in Australian households.

10. Which of the following is a correct statement?
   (a) A budget deficit always pays for itself because of the multiplier process it triggers.
   (b) The tax multiplier is stronger than the government spending multiplier.
   (c) All budget deficits are contractionary when the impact of the multiplier is included.
   (d) The effective value of the multiplier is reduced if a budget deficit leads to crowding out.

11 MONETARY POLICY

SYLLABUS CHECKPOINTS

- ☐ The concepts of monetary policy and the cash rate.
- ☐ The economic policy objectives of the Reserve Bank of Australia (RBA).
- ☐ Conventional and unconventional monetary policy.
- ☐ Circumstances under which the RBA may change the monetary policy stance.
- ☐ How changes in the cash rate affects the level of economic activity, i.e. the transmission mechanism.
- ☐ The impact of expansionary and contractionary monetary policy stances on the level of economic activity using the AE and AD/AS model.
- ☐ Strengths and weaknesses of monetary policy.
- ☐ Monetary policy stances in Australia over the last three years.

ESSENTIAL GUIDE TO MONETARY POLICY	
1	Monetary policy is an indirect, counter-cyclical, demand-side policy conducted by the Reserve Bank of Australia (RBA), conventionally through changes in the cash rate, in order to achieve its economic objectives.
2	The objectives of the RBA are (a) to keep annual inflation within a 2% to 3% band on average over the life of the business cycle, (b) to eliminate cyclical unemployment and (c) to promote economic growth.
3	The cash rate target is determined by the Board of the RBA at their regular meetings. The RBA is able to achieve their cash rate target because they can control the supply of and demand for exchange settlement funds in the accounts held by financial institutions at the RBA.
4	The 2% to 3% annual inflation target is the main framework used to guide monetary policy. Note that the target is neither zero nor a specific figure. The RBA has generally been successful in meeting the inflation target. This has provided households and businesses with the confidence that inflation will be kept under control.
5	Monetary policy is said to be indirect because (a) the level of the cash rate influences the level of other interest rates in the economy, (b) the level of other interest rates affects the level of aggregate demand and (c) the level of aggregate demand affects price stability, unemployment and growth. The process through which changes in the cash rate feed through to changes in aggregate demand and the macroeconomic objectives is known as the transmission mechanism.
6	The transmission mechanism works through a number of channels, including the savings and investment channel, the cashflow channel, the asset price and wealth channel and the exchange rate channel. Changes in the cash rate may affect confidence levels (or vibe) of consumers and producers.
7	If aggregate demand is considered to be too low, monetary policy can be eased by a reduction in the cash rate target. If aggregate demand is considered to be too high, monetary policy can be tightened by an increase in the cash rate target. The stance of monetary policy can be judged by comparing the cash rate target with an estimation of a neutral cash rate.
8	The term 'unconventional monetary policy' was used to describe the broader range of measures used by the RBA during the pandemic. These included a record-low cash rate target of 10 basis points (0.10%), enhanced forward guidance outlining the economic conditions necessary before a change to the cash rate target would be made, and purchases of government bonds (known as quantitative easing) to control the shape and level of the yield curve and restore confidence and order to the bond market.
9	Monetary policy has different strengths and weaknesses compared to those of fiscal policy. The RBA is independent of the government and, therefore, has no political bias. Monetary policy has short inside decision and implementation lags. The way the RBA conducts monetary policy is transparent and explained through various statements and publications.
10	The main weakness of monetary policy is that it is largely ineffective in lifting an economy out of a slump. The RBA can lower the cash rate, but, due to the indirect nature of monetary policy, cannot ensure that people react to the change. When confidence is low the transmission process is very weak.

11.1 THE ECONOMIC POLICY OBJECTIVES OF THE RESERVE BANK

1. What are the economic policy objectives of the Reserve Bank?

The objectives of the Reserve Bank are stated in the Reserve Bank Act 1959. Their objectives are in line with the macroeconomic objectives of the Government so you would expect monetary policy and fiscal policy measures to be complementary. The RBA objectives are:

- **Stability of the currency:** This goal is to keep annual inflation within a 2% to 3% target band on average over the economic cycle. The focus is on average and medium term inflation allowing the RBA to look beyond short-term factors. The inflation target is intentionally flexible but the flexibility is not boundless. Underlying inflation had actually been below 2 per cent for over three years before the 2020-21 recession and then, after the pandemic and the Russian invasion of Ukraine, increased markedly during 2022 to over 7%.

- **Maintenance of full employment:** This goal is to eliminate cyclical unemployment by keeping unemployment close to the non-accelerating inflation level of unemployment (NAIRU). Before the 2020–21 recession the RBA had developed the view that NAIRU had fallen a little below the previous estimated level of 5% as there was little evidence of inflationary pressure despite the apparent strength of the labour market. During the post-pandemic recovery unemployment fell to 3.5% due to changes in labour force participation levels.
- **Economic prosperity and welfare of people of Australia:** This goal is to foster as much economic growth for as long as possible consistent with price stability. Growth rates in Australia were below medium-term trend levels after the Global Financial Crisis. There was a brief recession during the pandemic but the economy recovered quickly as restrictions were eased.

2. **Why does the RBA have an inflation target?**
Most developed economies have an inflation target. Only Finland, Spain and Croatia have abandoned inflation targeting having once had one and this was because they joined the Eurozone. An inflation target anchors inflationary expectations within an economy and provides a clear policy framework for independent central bankers to follow. The Inflation target provides the Reserve Bank with:
- **A Performance Indicator:** The RBA can monitor its performance against the target.
- **Policy guidelines:** The RBA has a clear framework for deciding policy changes.
- **A way of managing inflationary expectations:** If the RBA meets its target, people will assume or expect inflation to continue within the target band.

3. **Why is the inflation target not zero?**
Internationally, inflation targets are within a 2% to 3% range. Initially a 2% target was a pragmatic choice made by New Zealand, but targets at or around 2%–3% have now been widely adopted. The target in some countries, such as Australia, allows some flexibility by stating the target as a range and over the life of the economic cycle. Other countries have a specific target figure (e.g. 2.5% in the UK). The Reserve Bank prefers its 2% to 3% over the cycle target because:
- **Achieving zero inflation would cause high unemployment:** The trade-off in achieving zero inflation would be slower growth and higher unemployment which would impose costs on the economy in the form of lost GDP and the social and economic consequences of joblessness.
- **Inflation data contains an 'upwards bias':** The Consumer Price Index (CPI) overstates changes in the cost of living because households can shop around, make product substitutions and change the quality of products they buy.
- **Improvements in quality:** The CPI also overstates changes in the standard of living because it does not fully account for changes in the quality of products.
- **Fear of deflation:** Zero inflation could easily slip into deflation and falling prices if the policy settings were not quite right. Deflation is feared because it locks in slow economic growth as it leads to an increase in the real value of debts, a postponement of consumption spending until prices fall and a fall in profits because prices tend to fall faster than the costs of production.

4. **Why is the target not a precise figure?**
The RBA, unlike some other central banks, aims to achieve an inflation rate within a target range rather than hit a precise figure. This broader target is preferred because:
- **Fine-tuning is not possible:** The RBA acknowledges that monetary policy can't be used for 'fine-tuning' the economy. It's main policy instrument, changing the cash rate target, is a blunt or general instrument.
- **It is easier to hit a big target:** By having a target zone, rather than a specific figure, the RBA is more likely to achieve the target rate of inflation. The more successful they are in achieving the target the better inflationary expectations can be managed.
- **It allows for special circumstances:** Australia's target allows for periods of above target inflation and below target inflation both during the economy cycle and in special circumstances.

5. **Could the target be higher or more flexible?**
A higher inflation target would allow the Government and Reserve Bank to employ more expansionary or reflationary economic policy measures to combat downturns and slumps. However, allowing higher inflation could lead to:
- an arbitrary redistribution of incomes within the economy by creating winners and losers.
- a loss of international competitiveness.
- a loss of business and consumer confidence.
- a loss of efficiency (as it takes time and energy to make constant adjustments as prices change (e.g. through so-called menu and shoe-leather costs).
- locking in higher inflationary expectations.

Student Activity 11.1

1. Define the term 'monetary policy'.

_____

_____

_____

2. Complete the following table to show you understand the basics of monetary policy.

(a)	Who sets monetary policy?	
(b)	What is the policy instrument used in monetary policy?	
(c)	What is the RBA trying to achieve through its monetary policy?	
(d)	What is the RBA's target range for inflation?	
(e)	Is monetary policy essentially a demand-side or a supply-side policy?	
(f)	Is monetary policy automatic or discretionary?	
(g)	Is monetary policy forward or backward looking?	
(h)	Monetary policy is counter-cyclical. What cycle is it attempting to control?	

3. Briefly discuss the relative merits of (i) a 0% inflation target, (ii) a 2% to 3% inflation target and (iii) a 2% to 5% inflation target.

11.2 CONVENTIONAL AND UNCONVENTIONAL MONETARY POLICY

1. **How is conventional monetary policy conducted?**
   - Conventionally, monetary policy is carried out by the Reserve Bank of Australia (RBA) and involves the management of interest rates to influence the level of economic activity so as to achieve the RBA's stated macroeconomic objectives.
   - The Reserve Bank of Australia is the country's central bank. It is independent of the government and is controlled by the Reserve Bank Board of Directors.
   - Monetary Policy is basically a demand-side policy because changes in interest rates impact on three of the components of aggregate demand (consumption, planned investment and net exports). There is a secondary supply-side effect through the effect of interest rates on the level of planned investment.
   - Because the impact of a change in interest rates on aggregate demand can be slow, the Reserve Bank's interest rate decisions look to the future and try to anticipate future changes in economy rather than react to the current conditions.
   - One aim of monetary policy is to keep growth close to trend growth levels and, therefore, avoid excessive inflation and unemployment. Because of this is it can be described as being counter-cyclical.
   - All interest rate changes are discretionary and are made by the Reserve Bank Board. Unlike fiscal policy, monetary policy does not have any built-in mechanism for automatic stabilisation.

2. **What is the main monetary policy instrument?**
   The main instrument of monetary policy is the cash rate and involves changes in the cash rate target (the RBA's official interest rate). The RBA achieves their cash rate target through open market operations. In turn, other financial institutions change their short-term and variable loan rates which, in turn, lead to a change in aggregate demand. For example, as the economy recovered from the pandemic and experienced rising food and energy prices as a result of the invasion of Ukraine, the cash rate target was raised aggressively between 2021 to 2023, from 0.1% towards 4%.

3. **What other policy instruments were used during the pandemic?**
   During the pandemic the RBA used a package of additional policy instruments. The package included:
   - **Enhanced forward guidance:** The RBA believed that providing information about the future path of interest rates made them more effective, especially when rates were at a low level. The Board had stated that they would not increase the cash rate target until actual inflation, not forecast inflation, was sustainably within the 2% to 3% target range and progress has been made towards full employment and rising wages. In the end the cash rate target was increased before these conditions were met.

- **Changes to Exchange Settlement Account (ES) interest:** Banks built up large amounts of liquidity during the pandemic. The RBA stopped paying interest to banks on their exchange settlement balances to encourage them to lend out or invest this money. This interest was restored during 2022.
- **Asset purchase schemes (or quantitative easing):** The bank introduced a target yield of 0.25% (25 basis points) on 3-year Australian Government bonds in an attempt to control the shape and level of one part of the yield curve. The RBA bought as many second-hand bonds as was necessary to achieve this target yield. The aim was to restore confidence in the bond market which, in turn, would provide liquidity to the banking system and enable money to be recycled throughout the economy at low rates of interest. It also helped reinforce the RBA's forward guidance regarding the cash rate. During 2022 the RBA returned to selling bonds, a policy known as Quantitative Tightening (QT), to reduce liquidity and support a higher cash rate target.
- **Term Funding Facility (TFF):** This increased the funds available to the commercial banking sector so they could increase their lending. It provided liquidity at relatively low rates, and other incentives, to promote bank lending to small and medium-sized businesses and to households. This facility was removed in 2022.

The RBA's package of measures was not as radical as those adopted by some other central banks and advocated by some economists. When it became clear that low interest rates were having little impact on aggregate demand the RBA assessed other monetary policy measures including:

- The use of negative interest rates (used in Switzerland, Japan and the Euro area) where banks paid their central banks to look after their funds.
- The creation of money for the government who could then pay it directly into peoples' bank accounts (referred to as a cash splash).
- Intervention in foreign exchange markets to push down the value of the currency.

The RBA's reluctance to use these extra measures was based on the belief that:

- They would create a wealth effect for the already wealthy by increasing asset prices, e.g. by increasing share and property values.
- Negative interest rates would encourage commercial banks to increase fees and charges to their customers and would, therefore, be counter-productive.
- Negative interest rates would encourage savers into financially risky investments.
- Further Quantitative Easing would increase liquidity and reduce the exchange rate.
- Other countries would retaliate and so nullify some of the intended impact.
- Interest rates and exchange rates were already low enough to allow viable businesses and exporters to be profitable.
- The RBA Governor believed that budget repair and fiscal austerity had placed too much of the burden of managing aggregate demand on monetary policy. He claimed that monetary policy alone could not deliver medium-term growth. Rather than relying on monetary policy and the use of unconventional monetary measures to stimulate recovery and growth he advocated increasing government spending on infrastructure investment and structural change.

4. Can you remind me of the meaning of the following terms, please?

Cash rate	The cash rate is the interest rate which banks pay to borrow funds from other banks in the money market on an overnight basis. It is also known as the interbank overnight rate.
Cash rate target	The Reserve Bank operates in financial markets to achieve its chosen target for the cash rate. When the Reserve Bank Board decides that a change in monetary policy is needed, it specifies a new target level for the cash rate. The target rate is also an important financial benchmark in Australian financial markets.
Exchange Settlement (ES) Balances	Exchange Settlement (ES) balances are the funds financial institutions (e.g. banks) hold in ES Accounts with the Reserve Bank. Financial institutions use these funds to settle financial obligations arising from the clearing of payments.
Asset purchasing schemes	Central banks can buy assets (especially government bonds) from private sector bond holders. This creates liquidity in the private sector and, because there is an inverse relationship between bond yields and bond prices, also influences the price and yield of the bonds. These asset purchases are referred to as quantitative easing (QE).
Yield Curve	A yield curve is a line that plots yields (or rates of return) of bonds having equal credit quality but differing maturity dates. The vertical axis shows the yield and the horizontal axis shows the length (or time to maturity) of the bond. The position, slope and shape of the yield curve can also be influenced by monetary policy measures.
Forward guidance	Forward guidance takes the form of a description of the economic conditions the RBA Board needs to see before it will raise the cash rate target. The guidance is based on the state of the economy (in technical terms, the guidance is state-based) rather than on economic forecasts.

Student Activity 11.2

1. What is main policy instrument of monetary policy?

2. Outline four unconventional or additional monetary policy measures used in Australia during the 2020–21 recession.

3. Why did the RBA withdraw their unconventional measures during 2022?

11.3 THE SIGNIFICANCE OF THE YIELD CURVE

1. What is yield curve?

- A yield curve is a line that plots the rates of return (or yields) of bonds having equal credit quality but differing maturity dates. The vertical axis shows the yield and the horizontal axis shows the length of the bond or time to maturity. The curve provides a clear, visual image of yields from short-term versus long-term bonds and the overall 'term structure of interest rates'.

2. What is the significance of yield curve to monetary policy?

- The yield curve is considered to be a leading indicator of the state of the economy and the level of future returns as its position is affected, among other things, by (a) views about longer-term inflation, (b) views about future growth rates and the likelihood of recession and (c) likely changes in the cash rate and bond yield targets.
- Yield curves can be normal (i.e. upward sloping'), flat or inverted or negative.
- Yield curves are normally upward sloping, because the longer the time to maturity the greater the risk and opportunity cost of holding the bond.

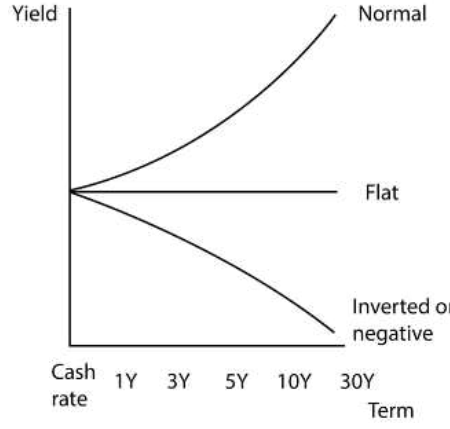


Figure 11.1: Yield curves.

Shape (type)	Description	Interpretations
Inverted or negative curve	Short-term yields higher than long-term yields	The economy heading for recession. The level of inflation is, or will be, falling Investors believe that the cash rate will be cut.
Flat curve	Short-term yields same as long-term yields	The yield curve is transitioning from normal to inverted or vice versa. A flat yield curve has also been observed at low levels of interest rates or as a result of some types of unconventional monetary policy.
Normal curve	Short-term yields lower than long-term yields	The economy is travelling well with steady sustainable growth, full employment but possibly some inflationary pressure. High returns on long-bonds are considered to be a reward for taking extra risk.

While the position and gradient of the yield curve provides information about the present and future direction of the economy, its position and gradient may also reflect the impact of monetary policy measures taken in the recent past.

Measure	Impact on yield curve
Cash rate increase	Shifts curve upwards
Cash rate decrease	Shifts curve downwards
Forward guidance	Flattens curve for period covered by guidance
Asset purchases (Quantity)	Shifts curve downwards by raising bond prices and reducing bond yield
Asset purchases (Price)	Flattens curve to target set for particular bond term
Increase in supply of bonds (to finance budget deficit)	Shifts curve upwards by reducing bond prices and increasing bond yields

Student Activity 11.3

1. What information is shown on a yield curve?

2. What is the significance of the slope of the yield curve?

3. Why did the RBA try to control points on the yield curve during the pandemic?

11.4 THE CONDUCT OF MONETARY POLICY

1. What is meant by the term 'monetary policy stance'?

The RBA's monetary policy stance is its position on the level of interest rates in the economy. A number of terms can be used to describe the monetary policy stance.

Stance	What is happening to cash rates?	Level of cash rate target	Desired impact of stance
Easing or loosening	Falling	Below 2%	An increase in aggregate demand
Expansionary (accommodative)	Stable below neutral level	Below 2%	An increase in aggregate demand
Neutral	Stable at a neutral level	Between 2% and 3%	Stable level of aggregate demand
Tightening	Rising	Above 3%	A decrease in aggregate demand
Contractionary	Stable above neutral level	Above 3%	A decrease in aggregate demand

2. In what circumstances will the RBA change the cash rate target?

The RBA's objectives guide its monetary policy decisions. The RBA sifts through masses of economic data on a constant basis to make judgements about economic performance. Even though they have an inflation target they do not react slavishly to changes in the level of inflation. The leading, lagging and coincident indicators they consider include:

- Trends in aggregate demand, e.g. consumption and planned investment.
- Leading indicators of credit, consumer and business confidence.

- Price indices, including underlying and headline, producer and consumer prices, wage rates, import prices and house prices.
- External indicators such as the exchange rate and balance on goods and services.
- Fiscal policy settings.
- Changes in growth rates in Australia's important trading partners.
- Changes in monetary policy settings overseas, especially in the United States.

The RBA Board attempts to anticipate changes in the economy rather than wait for problems to build up. They move early because:

- Changes to the cash rate target take a long time to affect the level of economic activity, i.e. there are relatively long outside or effect lags.
- Their cash rate changes can be smaller and, arguably, less disruptive.

Student Activity 11.4

1. Outline the different monetary policy stances and state the stance that is appropriate during (a) a period of inflation and (b) a recession.

2. The chart shows the level of the Australian cash rate target. Use the data in the chart below to complete the following table.

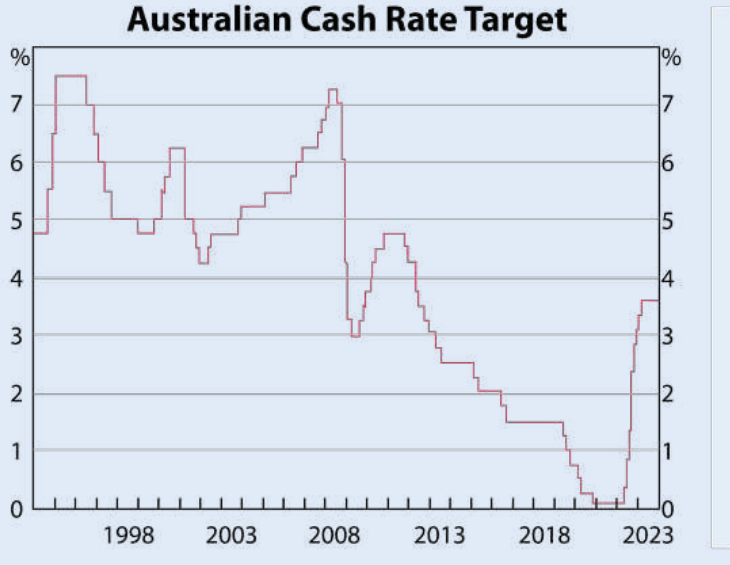


Figure 11.2: Cash rate target

(a)	What was the highest and lowest level of the cash rate target in the period covered by the chart?	
(b)	What term describes the monetary policy stance in 2013–20? Why was this stance necessary?	
(c)	Describe the monetary policy stance during the pandemic. Why was this necessary?	
(d)	Why did the RBA adopt a contractionary stance during 2022–23?	

3. Suggest two leading, two coincident and two lagging indicators that will form part of the decision making process for the Board of the Reserve Bank when setting the cash rate.

Leading (forward-looking) indicators	Coincident (current) indicators	Lagging (backward-looking) indicators
1. 2.	1. 2.	1. 2.

11.5 THE TRANSMISSION MECHANISM

1. **Why is the impact of monetary policy described as indirect?**
Monetary policy has an indirect effect on the economy. There are a number of stages in the transmission process. A change in the cash rate target affects other interest rates in the economy such as business and home loan rates. In turn, these other rate changes affect the components of aggregate demand. Changes in aggregate demand then affect the economy's macroeconomic objectives.

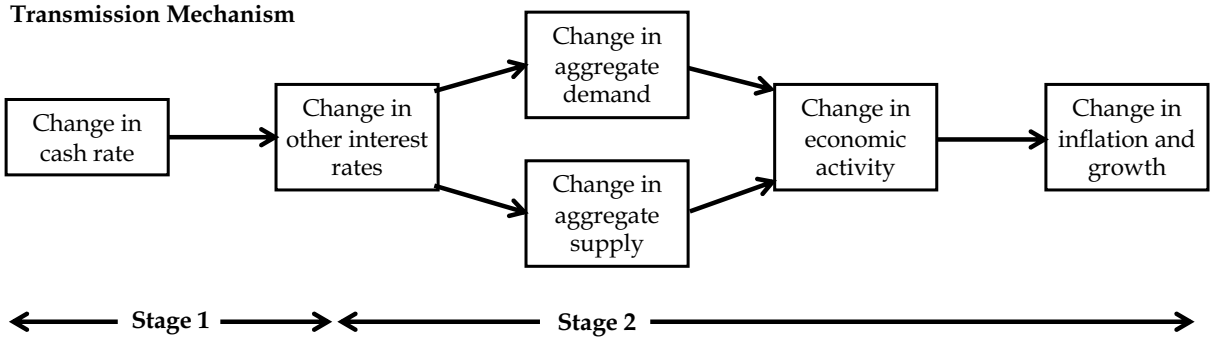


Figure 11.3

2. **Why do changes in the cash rate target lead to changes in other interest rates?**
There are many different interest rates in an economy at any one time, each reflecting different demand and supply conditions in separate sections or segments of the financial and money markets. Factors affecting demand and supply in these markets include:
- The level of risk (e.g. the credit rating of the borrower and the purpose of the loan).
- The length of time of the loan (e.g. for 90 days or 10 years).
- The expected level of inflation during the time of the loan.

Funds can move easily between the separate sections, so a change in conditions in one sector (e.g. a change in the cash rate in the exchange settlement sector of the short-term money market) has a flow-on or domino impact on other sectors of the money market (e.g. Australian business and housing interest rates).

3. **Why do changes in interest rates affect the level of aggregate demand?**
The Reserve Bank identifies four main ways changes in interest rates in the economy affect the level of economic activity and hence achievement of the macroeconomic objectives.
- **The savings and investment channel:** Households and businesses adjust their level of consumption and investment spending when there is a change in the returns from saving and cost of borrowing. Because saving delays, and borrowing brings forward, consumption and investment spending this channel is said to cause an 'inter-temporal substitution effect'.
- **The cash flow channel:** Changes in interest rates affect the disposable cash or liquidity of households and businesses. For example, when interest rates increase

borrowers' interest payments rise leaving less cash to finance other spending, but savers' interest receipts rise giving them more cash for other spending.

- **The asset price and wealth channel:** Changes in interest rates have a direct impact on bond prices, and an indirect impact on house prices and share values. Changes in wealth, in turn, affect levels of household spending.
- **The exchange rate channel:** Changes in interest rates, relative to rates in other economies, affect the size of foreign investment flows and hence the exchange rate value of the Australian Dollar. A change in the value of the currency, in turn, affects the net export component of aggregate demand and the level of imported cost-push inflation

4. What factors affect the strength of the savings and investment channel?

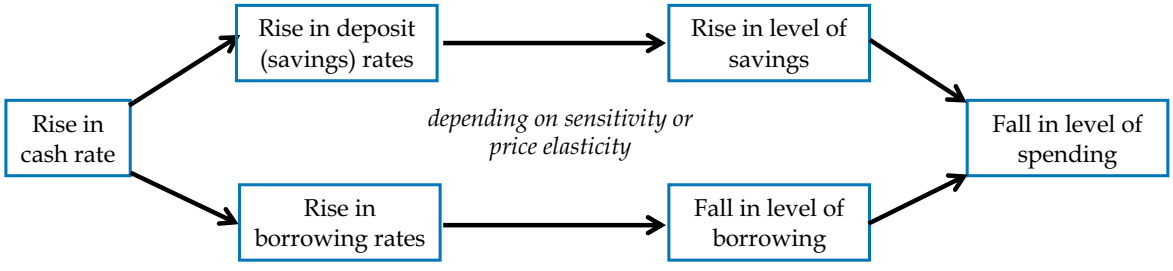


Figure 11.4: The savings and investment channel.

The key to the strength of the savings and investment channel is the sensitivity of consumption and investment spending by households and businesses to changes in interest rates. Research suggests that

- Small businesses react more to changes in the cost of borrowing than larger businesses because they are more likely to fund their activities through loans and debt than with equity finance from shareholders.
- Households appear to be relatively insensitive to changes in the returns from saving and borrowing.
- Households who are saving to achieve a target level of income (e.g. some retirees) may save less when interest rates rise because they can meet their target income from a lower capital base.

5. What factors affect the strength of the cash flow channel?

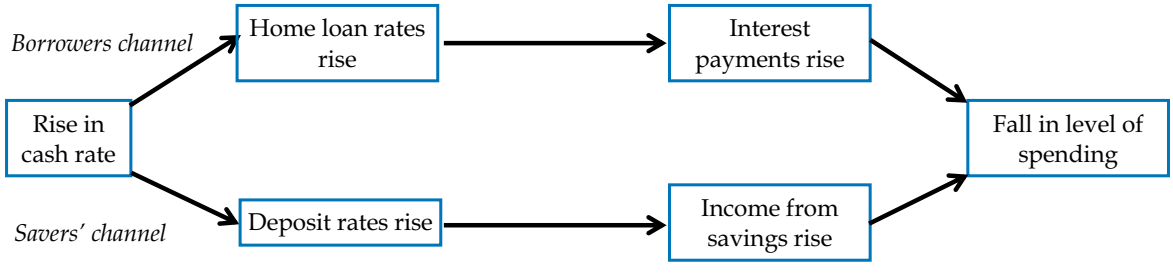


Figure 11.5: The cash flow channel

The most important factor in the cash flow channel is the relative strengths of the borrowers' channel and the savers' channel. Research shows that the borrowers' channel is the stronger of the two, although self-funded retirees are a significant group within in the savers' channel. Reasons for the relative strength of the borrowers' channel include:

- Debt levels tend to be larger in value than the value of saving deposits (e.g. because of the size of home loans)
- The marginal propensity to consume of borrowers tends to be greater than that of savers (who may be more risk averse and conservative in their spending behaviour)

6. What factors affect the strength of the asset price and wealth channel?

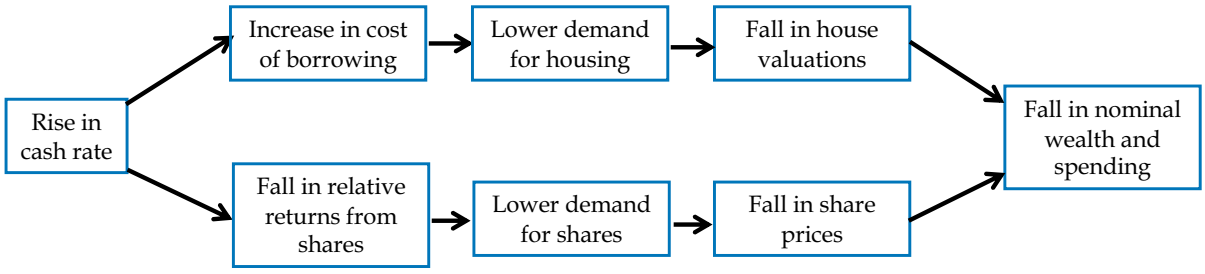


Figure 11.6: Asset price and wealth channel.

RBA research suggests that the wealth effect from changes in house prices is stronger than the effect from changes in share values. However, there are three factors to consider:

- The spending of both home owners and renters appears to change when house prices rises, even though renters don't benefit directly from an increase in the value of the property they are renting and may even have to pay more by way of rent.
- A rise in the general level of house prices only creates 'real' wealth when homeowners downsize and move to a smaller property, as the gains from selling, and costs of buying, in the same market cancel each other out.
- A rise in house prices may be enough to encourage developers to increase the supply of housing, dampening the rate of the future growth of house prices.

7. What factors affect the strength of the exchange rate channel?

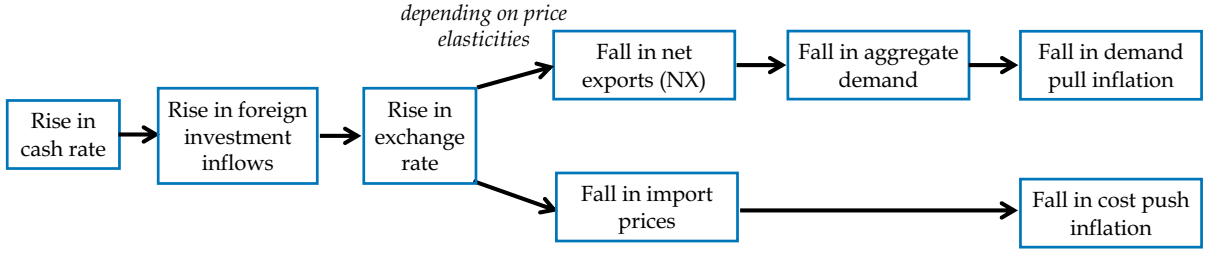


Figure 11.7: The exchange rate channel.

Research shows there is a direct relationship between the rate of interest and the exchange rate although it is relatively weak because of the impact of:

- Interest rates changes in other countries that affect the relative level of interest rates
- Other factors that affect the level of the exchange rate, such as the level of commodity prices and the terms of trade

The impact of a change in the exchange rate on net exports and hence the level of aggregate demand depends on:

- The level of trade conducted in currencies other than the Australian Dollar (e.g. most mining trade is conducted in US Dollars)
- The sensitivity to exports and imports to changes in prices (i.e. the price elasticity of demand for exports and imports). Trade in services may be relatively price-elastic compared to trade in capital and intermediate goods.

The direct impact of changes in import prices on the domestic rate of inflation may be the most significant feature of the exchange rate channel.

8. Is there a fifth 'confidence' or 'vibe' channel?

While the RBA refers to the impact of changes in the cash rate on consumer and business confidence it does not list this as a separate channel. The RBA suggests the 'vibe' or emotional reaction reinforces or detracts from the other savings and investment, cash flow and asset value channels. The message conveyed by a rate change may vary from situation to situation, with, for example, a cut to a record low cash rate

of 1.5% being interpreted either positively as an expansionary measure or negatively as a sign that the economy is in a bad shape.

9. **How does a change in interest rates affect consumption and, hence, the level of aggregate demand?**
A fall in interest rates will normally lead to an increase in consumption spending due to:
- **Time shift effect:** Cheaper to borrow and lower returns from saving
- **Cash flow effect:** More money left over for other spending after interest payments.
- **Asset price effect:** Rise in nominal wealth due to rising share and property values.
- **Exchange rate effect:** A fall in imported cost-push inflation
- **Expectations effect:** Positive vibes about the economy

10. **How does a change in interest rates affect planned investment and, hence, the level of aggregate demand?**
A fall in interest rates will normally lead to an increase in planned investment due to:
- **Time shift effect:** Cheaper access to finance
- **Cash flow effect:** More internally generated liquidity
- **Exchange rate effect:** Rise in export opportunities, but more expensive imported capital goods and components
- **Expectations effect:** Positive vibes about the economy

11. **Does a change in interest rates affect government spending?**
A fall in interest rates has little direct impact on government spending and aggregate expenditure.

12. **How does a change in interest rates affect net exports and, hence the level of aggregate demand?**
A fall in interest rates should have the following effect on net exports and aggregate expenditure.
- **Fall in the exchange rate:** A depreciation of the exchange rate should, after time, increase the value of net exports.
- **Income effect on imports:** The rise in income caused by lower interest rates will increase the level of imports.

Student Activity 11.5

1. What are the stages in the transmission mechanism?

2. What are the four (or five) channels through which a change in interest rates affects the components of aggregate demand?

3. Why might a cut in interest rates, other things being equal, lead to the following?

(a)	A rise in household consumption? List three reasons.	
(b)	A rise in business investment? List three reasons.	
(c)	A fall in the exchange rate. List two reasons.	

4. Complete the following.

Draw an AD/AS diagram to show the likely impact of a fall in the cash rate target.	Draw an AE diagram to show the likely impact of a rise in the cash rate target.

11.6 STRENGTHS AND WEAKNESS OF MONETARY POLICY

1. **What are the traditional strengths of monetary policy?**
In normal economic circumstances monetary policy has a number of strengths and advantages over fiscal measures. These include:
- **Direct action, speed and control:** The RBA monitors a number of underlying measures of inflation and can make changes to cash rates before inflation gets out of control. Changes can be made in small increments.
- **Short action and implementation lags:** The RBA meets at regular intervals and can implement a policy change straight away. Fiscal policy changes, however, involve a protracted process of debate and compromise.
- **No political interference:** The RBA is independent of politics and is not involved in the election process. The RBA can make policy changes in order to achieve its target of 2% to 3% inflation on average over the economic cycle. The RBA Board does not have to worry about how popular their decisions are.
- **Transparency:** The RBA has a clear inflation target. It explains each monetary policy decision and provides minutes for each Board meeting. It also produces quarterly statements about monetary conditions and the Governor meets with a parliamentary committee twice a year.
- **No crowding out effect:** Monetary Policy has fewer negative side effects than fiscal policy.

2. What are the traditional weaknesses of monetary policy?

The weaknesses of monetary policy include:

- **Long effect or impact lag in a recession or slump:** The transmission mechanism associated with an expansionary monetary policy stance is weak, causing a very long effect lag. Households continue to save even though real interest rates are low or even negative. Households are reluctant to increase consumption when confidence is low, e.g. because of the fear of unemployment or market volatility. Investors are reluctant to borrow because consumer and investor confidence is low. Money may be cheap but if consumers and investors lack confidence they don't borrow to finance spending.
- **Lack of impact when rates are low:** Few businesses will consider investing in a project with a rate of return as low as 4% or 5%. Therefore, a change in the cash rate from, say, 1.75% to 1.50% is unlikely to have much effect on investment decisions.
- **Other factors affect exchange rates:** Exchange rates are influenced by several factors. At times, commodity prices and the risk environment may override interest rate differentials in determining the demand for and supply of the currency.
- **Banks may not pass on changes in the cash rate:** Not all changes to the cash rate are fully passed on to bank customers.
- **Ineffective against cost-push inflation:** Monetary policy may be able to influence aggregate demand and, hence, demand-pull inflation but it is ineffective in combatting cost-push inflation.
- **Two-speed or patchwork economies:** Monetary policy is a 'blunt instrument'. There is only one cash rate. It applies to all markets in all parts of Australia. This means the RBA faces a dilemma if activity is low in one area (e.g. manufacturing or Tasmania) but high in another area (e.g. housing or NSW).

3. Was monetary policy effective during the recovery from the Covid-recession?

The combination of accommodative monetary policy, fiscal stimulus, stronger commodity prices and a rise in the terms of trade, led the economic recovery after the Covid-19 recession. However, the impact of the RBA's conventional and unconventional monetary policy measures was quite weak. A cash rate target of 0.1% (10 basis points) was considered to be the lowest level that would have some effect on the economy.

The weaknesses of monetary policy evident during the pandemic included:

- **The weakness of the transmission mechanism:** The transmission mechanism tends to be weak when it is needed most, that is when economic activity is weak and interest rates are low. A weak transmission mechanism leads to a long effect lag. The various transmission channels affecting household consumption were not strong enough to overcome the other negative factors influencing consumption, such as weak wages growth, increasing levels of underemployment, the impact of tax creep on disposable incomes and the need to control levels of household debt. Equally there is not a significant impact on planned investment when there are low levels of business confidence levels, low productivity growth, low overseas growth and low growth world trade.
- **Weak impact of low interest rates:** Low interest rates caused their own problems. These included reducing the incomes for retired Australians who relied on the interest from term deposits or pension pots to support their income and spending. Low interest rates also contributed to a weaker exchange rate, leading to a rise in the price of imports, a concern, for example, for importers of machinery, manufacturers using imported components and people travelling overseas. Low interest rates reduced the pressure on firms to stay competitive and allowed inefficient (or zombie) businesses to survive. Without the pressure to stay competitive so called 'waves of creative destruction' are less likely to occur. These are periods when natural (or market) selection takes place because poor performers fail and strong performers thrive causing productivity to rise.
- **The indirect nature of monetary policy:** Monetary Policy relies on financial institutions passing on changes in the cash rate target to their own interest rates. This does not always happen.

Student Activity 11.6

1. Explain why, when the economy is in a slump, the impact of a cut in cash rates will be weak and slow to take effect.

2. Outline why, in normal economic circumstances, monetary policy may be preferred to fiscal policy for managing the level of aggregate demand.

3. Compare the time lags involved in monetary policy and fiscal policy.

4. Why is monetary policy considered to be more flexible but less direct than fiscal policy?

5. Discuss whether monetary policy can reduce cost-push inflation and reduce the natural rate of unemployment.

6. Read the passage below and attempt the questions that follow.

The 2010's were an era of low inflation and some commentators believed inflation had died. Central Banks had developed monetary policy measures designed to lock in a low rate of inflation (e.g. setting an inflation target or range, being transparent about the state of the economy and providing forward guidance about policy changes). They were helped by a number of supply-side factors, linked to the process of globalisation, including:

- A more efficient allocation of resources as economies specialised according to the pattern of comparative advantage, especially as China and other east Asian economies developed their manufacturing capacity and became the 'world's factory'.
- Dynamic gains caused by, for example, an increase in international competition and in economies of scale.
- A slower growth in wages caused by increased labour mobility.
- The development and spread of technology (e.g. in transportation, information sharing, artificial intelligence and production).

However, in the early 2020's inflation returned and many advanced economies experienced their highest rate of inflation for over 40 years. Inflation rates were well above the target levels set by their governments and/or central banks. Factors behind the return of inflation and the associated 'cost-of-living crisis' were:

- Russia's invasion of Ukraine and the impact this had on the prices of energy, wheat, and fertiliser.
- The legacy of the pandemic e.g. through damaged supply lines (e.g. production of microprocessors, shortage of containers, port and factory closures) and a fall in labour participation.
- Development of wage-price spirals
- The strength of the US dollar

The Reserve Bank, and other Central Banks around the world, faced criticism for their failure to control or head off the spike in inflation and squeeze on the cost of living. Along with Federal and State Governments, the RBA was worried about the 'scarring' or long-term economic damage a prolonged recession would cause. However, with the benefit of hindsight, it appears that the RBA made an error of judgement by keeping their monetary policy stance too lax for too long.

(a) What monetary policy measures had been developed to lock in low inflation before 2020?

(b) List three factors, apart from monetary policy, that had helped keep inflation low before 2020.

(c) Identify four reasons why above target inflation returned in the early 2020's.

7. Find the latest Statement by the Governor of the Reserve Bank covering the RBA Board's cash rate decision on the Reserve Bank's website (www.rba.gov.au).

(a) State the cash rate decision.

(b) Discuss whether the decision is a continuation of an established trend or whether it heralds a change the stance of monetary policy.

(c) What are the factors the RBA Board considered in reaching its cash rate decision?

(d) What is the intended impact of the cash rate decision on the level of economic activity and hence the achievement of its macroeconomic objectives?

(e) Evaluate the RBA Board's decision.

SO YOU THINK YOU UNDERSTAND MONETARY POLICY	
Three key phrases in definition 1 2 3	**Monetary policy stances** 1 2 3 4 5
Objectives of Reserve Bank 1 2 3	**Strengths of monetary policy** 1 2 3 4 5
The policy instrument **Additional instruments during 2020-21**	**Six weaknesses of monetary policy** 1 2 3 4 5 6
Policy framework (inflation target) **Three reasons for a target** 1 2 3 **Why target is 2% / 3%** 1 2 3 1 2	**Recent monetary policy** **Factors influencing the next move** 1 2 3 4 5
Steps in transmission mechanism 1 2 3 **Five channels of monetary policy** 1 2 3 4 5	**Five problems with a very low cash rate** 1 2 3 4 5

TEST YOUR KNOWLEDGE

Monetary Policy Multiple-Choice Questions

1. Which of the following macroeconomic indicators provides the RBA with its framework for making monetary policy decisions?
   (a) Real GDP.
   (b) The money supply.
   (c) The inflation rate.
   (d) The unemployment rate.

2. Which one of the following is the main policy instrument of monetary policy in Australia?
   (a) Changes in the growth of the money supply and credit.
   (b) Changes in the cash rate target.
   (c) Changes in the level of government spending and taxation.
   (d) Changes in the exchange rate value of the Australian Dollar.

3. Which of the following will be the main impact of a rise in the cash rate target?
   (a) An increase in the level of aggregate demand.
   (b) A decrease in the level of aggregate demand.
   (c) An increase in long-run aggregate supply.
   (d) A decrease in long-run aggregate supply.

4. Which of the following changes in the cash rate target is consistent with an expansionary monetary policy stance?
   (a) A reduction in the cash rate target from 6% to 5.5%.
   (b) A reduction in the cash rate target from 1.5% to 0.25%.
   (c) An increase in the cash rate target from 5.5% to 6%.
   (d) An increase in the cash rate target from 0.25% to 1.50%.

5. Which one of the following is the most likely consequence of an increase in the cash rate target?
   (a) A rise in share prices and property values.
   (b) A rise in the cash flow of households with flexible interest home loans.
   (c) A rise in the level of household saving.
   (d) A fall in the exchange rate value of the Australian Dollar.

6. Which of the following correctly describes the sequence of the monetary policy transmission mechanism?
   (a) Changes in interest rates affect cash rates. Cash rates affect aggregate demand. Aggregate demand affects macroeconomic performance.
   (b) Changes in cash rates affect interest rates. Interest rates affect aggregate demand. Aggregate demand affects macroeconomic performance.
   (c) Changes in cash rates affect interest rates. Interest rates affect macroeconomic performance. Macroeconomic performance affects aggregate demand.
   (d) Changes in cash rates affect interest rates. Interest rates affect aggregate supply. Aggregate supply affects aggregate demand.

7. Which one of the following is a weakness of monetary policy compared to fiscal policy?
   (a) Monetary policy is flexible and changes can be made quickly.
   (b) The Reserve Bank is independent of the government and has no political bias.
   (c) Monetary policy has a longer effect or impact lag, especially in a recession.
   (d) There is an inflation target that limits the scope of monetary policy changes.

8. The monetary policy transmission mechanism works slowly and is weak in a recession because:
   (a) Monetary policy has long recognition and implementation time lags.
   (b) Consumer confidence is relatively low and households and businesses are reluctant to borrow even when interest rates are low.
   (c) A fall in cash rates causes the value of the Australian Dollar to rise in a recession.
   (d) The demand for loans is price elastic in a recession.

9. Which one of the following describes the effect of a cut in interest rates?
   (a) A fall in imported cost-push inflation as a result of a fall in the exchange rate.
   (b) A decrease in house prices as a result of lower demand for home loans.
   (c) A fall in cyclical unemployment as a result of a rise in aggregate demand.
   (d) An increase in the rate of economic growth as a result of financial crowding out.

10. If the Reserve Bank considers inflation is likely to stay within the inflation target band but economic growth is below trend and unemployment is above the natural rate of unemployment it is likely to:
   (a) Raise the cash rate target to reduce the level of aggregate demand.
   (b) Reduce the cash rate target to increase the level of aggregate demand.
   (c) Sell government bonds to the public to reduce the money supply.
   (d) Leave rates unchanged because price stability is the Reserve Bank's only economic objective.

12 LABOUR PRODUCTIVITY

SYLLABUS CHECKPOINTS

- ☐ The importance of long-run economic growth.
- ☐ The concept of labour productivity.
- ☐ The factors affecting labour productivity growth including human capital, physical capital (capital deepening), technological progress.
- ☐ Government policies designed to influence labour productivity and the achievement of economic growth.
- ☐ The impact of changes in labour productivity using the AD/AS model and the Aggregate Production Function (APF).

ESSENTIAL GUIDE TO LABOUR PRODUCTIVITY	
1	Productivity measures how efficiently economic resources (inputs) are turned into products (output).
2	Productivity is measured by dividing units of output by units of inputs. The units of inputs can be hours of labour or units of capital or combinations of labour and capital.
3	Measurement of productivity is difficult in non-market sectors of the economy (e.g. administration and health care) and varies with the economic cycle. Some inputs (e.g. natural resources) and output e.g. externalities, may not be measured at all.
4	Productivity growth allows sustained non-inflationary economy growth. Productivity growth allows more productive workers to earn higher incomes and to buy some products at lower prices. It helps international competitiveness and provides a fiscal dividend for the government to spend on public and merit goods. However, productivity growth does not automatically lead to fairness and it may contribute to structural change.
5	Labour productivity is likely to be affected by the amount of capital available to the workforce. An increase in capital per worker is known as capital deepening. If investment falls and capital per worker falls (capital shallowing) labour productivity will probably fall. Multifactor productivity grows through technological progress and innovation by management.
6	Australia's productivity performance was relatively weak during the period 2010-20 and was both a cause and a consequence of the low-growth cycle.
7	The government has a role to play in facilitating productivity growth but it is actually generated by business leaders and decision makers.
8	Governments facilitate productivity growth through a mix of interventionist and market-orientated measures. They intervene in relevant cases of market failure (e.g. by controlling monopoly power and providing public goods) and promote market economic activity where appropriate (e.g. through trade agreements and deregulation).
9	The government's economic reform measures need to balance the needs of the economy and social justice where these are in conflict.
10	The impact of productivity growth can be modelled on Production Possibility Frontier diagrams, Aggregate Demand and Aggregate Supply diagrams and on Aggregate Production Function diagrams.

12.1 MEANING AND MEASUREMENT OF PRODUCTIVITY

1. What is the meaning of the term 'productivity'?

According to Australia's Productivity Commission, productivity is a measure of the efficiency with which an economy transforms inputs (such as labour and capital) into outputs (such as goods and services). Productivity is a measure of productive or technical efficiency and is calculated by dividing the level of output with the level of inputs used in its production. Productivity grows when more outputs are produced using the same level or fewer inputs. If there is a rise in output that can't be accounted for by the use of extra resources there has been a rise in productivity. Increased productivity means more is being produced for a given level of inputs. The level of productivity depends on the quality of resources and the efficiency with which they are used and combined.

Output (and hence income) is a function of the quantity of resource input and productivity. The production function, therefore, can be written as:

- Output (O) = Income (Y) = labour productivity × input of labour
- Output (O) = Income (Y) = multi-factor productivity × input of labour × input of capital

So labour productivity = output/the input of labour, and multi-factor productivity = output / (the input of labour plus the input of capital). Increasing capital per worker (capital deepening) will increase labour productivity more than multi-factor productivity.

2. **How is productivity measured?**
There are different measures of productivity:
- **Labour productivity (LP):** LP is the output produced per unit of labour input. This is comparatively easy to measure if the value of output can be accurately measured and the number of labour hours used can be identified. In practice, LP measures not only the efficiency of labour but also the value added from the use of extra capital investment, such as equipment, machines, information and communications technologies, and changes in the quality of inputs.
- **Multi-factor productivity (MFP):** MFP is the output produced per unit of the combined input of labour and capital. It can be thought of a weighted average of labour productivity and capital productivity. MFP growth reflects changes in output that can't be accounted for by changes in the quantity labour and capital input. This may include improved management practices, the use of advanced technology embedded in new capital and a more skilled and educated workforce. MFP is the most comprehensive measure of productivity released by the Australian Bureau of Statistics. In practice, MFP is difficult to measure because of the problems involved in obtaining an accurate assessment of the value of capital used in each time period.

Labour productivity (LP)	Multi-factor productivity (MFP)
$\frac{\text{GDP}}{\text{Labour hours worked}}$	$\frac{\text{GDP}}{\text{Labour hours + Capital input}}$

3. **Is it easy to measure productivity?**
Productivity and productivity growth have been described as 'important but elusive' indicators because of the difficulties in obtaining accurate measurements of output and inputs. As a result measures of productivity and productivity growth are volatile and subject to revision. For example:
- In some service industries (such as aged care or enforcement of law and order) it may be difficult to identify and value a unit of output.
- Data about total hours worked can be difficult to find. For simplicity the total number of people in work is often substituted for total hours worked but this is a less accurate way of measuring labour input.
- Output per worker may vary from firm to firm, industry to industry and region to region.
- Identifying 'a unit of capital' is not a straightforward matter.

12.2 THE IMPORTANCE OF PRODUCTIVITY GROWTH

1. **Why is productivity important?**
- Productivity growth is an important source of non-inflationary growth. See Chapter 9 for a discussion about the desirability of GDP growth.
- For growth to be sustained over the long term, growth in aggregate supply must keep up with the growth in aggregate demand.
- Growth in aggregate supply requires (i) more resources, (ii) better quality resources and/or (iii) a more efficient allocation and combination of resources. Indeed the three main contributors to growth (the 3P's) are (i) productivity, (ii) population and (iii) participation.
- In Australia, the 3P's have assumed greater significance now that improvements in the terms of trade can no longer be relied on to provide further increases to real incomes.
- Productivity is the key to driving real wages growth, real profit growth and asset price growth over long periods of time.
- It enables governments to boost service provision in, for example, health, aged care, disability and defence, without raising the overall tax burden.
- Without productivity growth, boosting wages growth to match or exceed current high inflation would run the risk of creating a wage-price spiral and, in the the end, higher unemployment.

- Given that some of the factors that, up to now, have been important drivers of Australian growth, have become more problematical, such as strong growth in China and rising terms of trade, productivity growth has become more important than ever, especially as newer threats to growth and living standards, such as climate change and geo-political tensions, develop.

12.3 ECONOMIC MODELS TO SHOW THE IMPORTANCE OF PRODUCTIVITY GROWTH

1. Aggregate demand/aggregate supply model

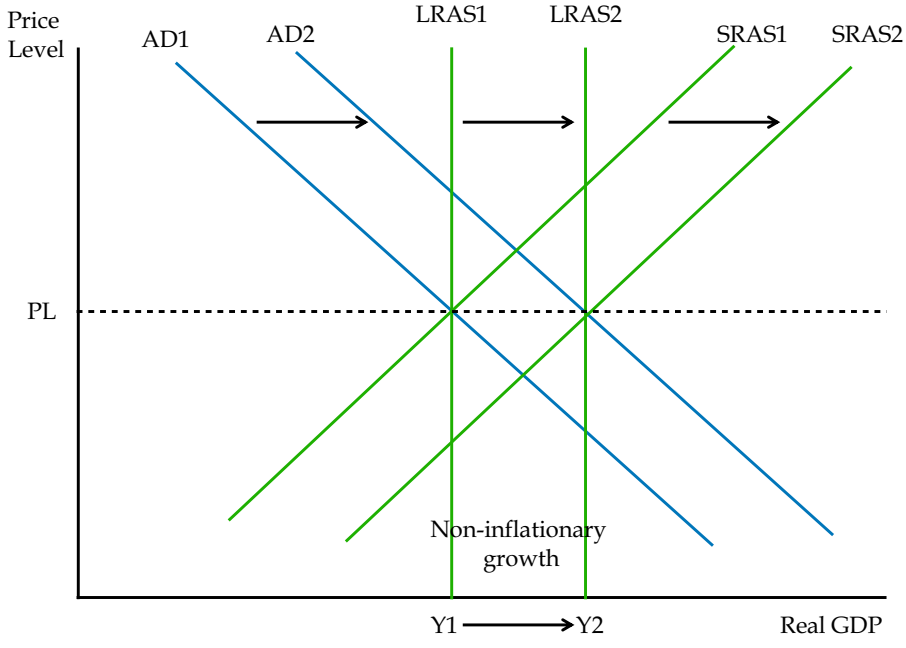


Figure 12.1

Figure 12.1 shows how growth can be non-inflationary if supply rises when aggregate demand rises. Real GDP rises from Y1 to Y2 without a change the price level. A rise in productivity would lead to a rise in aggregate supply.

2. Aggregate production function

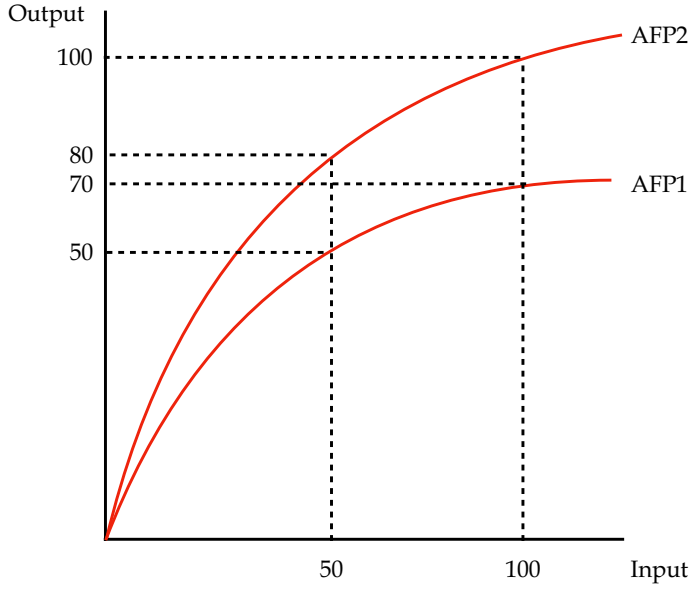


Figure 12.2

The model shows the level of output from different levels of factor input. The slope of the aggregate production function is determined by the law of diminishing returns.

This law states that when you increase one input (e.g. capital per hour worked), while holding the other inputs fixed (e.g. the level of technology), those increases yield smaller gains in terms of real GDP. AFP1 shows that doubling resources (from 50 to 100) doesn't double output (50 to 70 units). AFP2 shows what happens when productivity increases. The output obtained from 50 units of factor input rises to 80 units and from 100 units of factor input rises to 100 units of output. The increase in productivity allows sustained economic growth.

3. The high-growth cycle

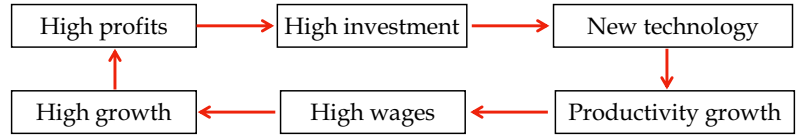


Figure 12.3

Growth can create a virtuous cycle where strong demand leads to higher profits, higher investment, productivity growth and wages growth which in turn feed through to more growth. Since the Global Financial Crisis (GFC) in 2008, Australia has, along with other western economies, been caught in a low-growth trap with a reverse or vicious cycle of slow growth where declining productivity growth is contributing to slow growth in real wages, and high inflation.

Student Activity 12.1

1. In 2020 a manufacturer produced 100 widgets in an 8-hour shift, employing five workers and two machines. In 2021, as a result of an inflow of foreign direct investment, production increases to 150 widgets each 8-hour shift, employing three workers and four machines.

(a)	What was the level of production in 2020?	
(b)	What was labour productivity, per hour, in 2020?	
(c)	What was labour productivity, per hour, in 2021?	
(d)	Describe two factors that contributed to the change in labour productivity.	

2. Comment on the productivity of the teacher whose class earned the results shown below.

Year	Students in class	Students achieving A grade	Students achieving B grade	Students achieving C grade	Laptops per student
2018	20	6	8	6	0.5
2023	15	6	5	4	1

3. Comment on the ease or difficulty of measuring productivity in the following cases.

(a)	An accident and emergency department in a hospital	
(b)	The production of LNG	
(c)	Innovation that comprises intangible factors such as cloud computing, artificial intelligence and machine learning.	

4. State why, in the aggregate production function model,
   (a) the aggregate production function is not linear
   (b) the impact of productivity growth on the aggregate production function
   (c) the importance of productivity growth to sustain growth in output.

5. Draw an aggregate demand/aggregate supply diagram to show how productivity growth can lead to a period of non-inflationary growth. Explain the key features of your diagram.

12.4 PRODUCTIVITY PERFORMANCE

1. What have been the recent trends in labour productivity?

Figure 12.4: Data Source ABS

2. How is productivity affected by the economic cycle?

- The level of productivity is affected by the movement of the economy above and below its trend growth path. It is not a surprise that the fewer resources are wasted when the economy operates close to capacity (or when actual GDP is close to the level of potential GDP) and unemployment and underemployment falls.
- However, labour productivity also tends to rise when the economy grows because people already in employment work more efficiently e.g. with less down time and with more urgency.
- The relationship between productivity and economic growth generates a cumulative process in the economy and reinforces the economic cycle (i.e. economic growth causes productivity growth and productivity growth leads to economic growth).
- So the Government and RBA can establish an appropriate economic environment for productivity growth by managing the economy to achieve their macroeconomic objectives.

3. What are the structural factors that have affected Australia's labour productivity?

There is no shortage of structural factors that have been linked to Australia's relatively poor productivity performance. Some of the productivity-enhancing measures described in the next section can be directly linked to the factors outlined below.

- **A shift from manufacturing to services:** There are opportunities for productivity improvements in industrial manufacturing processes (e.g. automated mass production, out-sourcing to low-cost suppliers), but there are fewer opportunities in the service sector. Many Australian businesses are predominantly local labour-intensive personal service providers. They often involve non-routine and non-repetitive tasks where boosting productivity is complex and explains, in part, why healthcare, education and childcare costs are rising more than general price levels while many manufactured products are becoming cheaper.
- **Education has become expensive:** The effects of rising literacy and numeracy levels over the last two centuries and the rapid expansion of higher education in the last 50 years may not be repeatable. The cost of higher education puts it beyond the reach of many, forcing graduates to start their working lives with significant debt.

The decreasing income advantage of higher qualifications after deducting costs has reduced its attraction.

- **Type and level of education:** Critics cite Australia's relatively poor performance in international mathematics and reading tests (e.g. the PISA tests) as evidence for the need to improve the quantity and quality of education in science, technology, engineering and mathematics (STEM).
- **There is more regulation:** Businesses must adhere to more rules, for example, to protect the environment, their employees and their consumers. While this protection is obviously a good thing, excessive regulation can make some business activities more complex and expensive, lead to fewer business start-ups and reduce competition in the marketplace.
- **Lack of competition:** Increased market concentration and hence firms with more monopoly power limits opportunities for new businesses to form. In Australia, major industries such as retailing, banking, energy, telecommunication, technology, media are dominated by a few local or foreign companies. This increasingly restricts competition and reduces incentives to improve productivity.
- **Management incentives:** Short tenures of chief executives and incentive structures linked to short-term performance may favour financial engineering to boost earnings and share prices rather than productivity-enhancing but risky investments in research and development or staff development.
- **Reduced growth in business investment:** Growth in real business investment fell from 9.5% per year in the 2000s to just 0.6% per year in the 2010s. The last 15–20 years have seen a decline in research and development investment as a share of GDP. Two factors behind this weak business investment have been (i) confusion regarding climate policies which led to underinvestment in power supply, and (ii) the so-called 'resources curse' where the strong growth rates achieved during the mining boom restricted levels of investment outside the mining sector, reducing the capital available to each worker and leading to capital shallowing (as opposed to capital deepening).
- **Zombie businesses:** Since 2008, low interest rates and unconventional monetary policy measures have distorted the economy, creating zombie businesses. While these companies can pay off the interest on their bank loans, they lack sufficient cashflow to repay the debt or invest to improve operations. Lenders are reluctant to call in the loans because they would incur losses. While investment finance remains tied up in inefficient businesses, the supply of credit to smaller innovative and productive businesses is restricted.
- **The slow pace of economic reform:** The impact of the economic reforms in the 1980s and 1990s has faded and there has been a lack of new economic reform measures in recent years. The Grattan Institute counts 15 big economic reforms during the Hawke-Keating governments, 8 during Howard's 11 years in government and only 6 since. Since the introduction of the GST there has been little in the way of significant new reform and, in some areas, such as wage determination, some backsliding. The lack of reform has been put down to reform fatigue and a lack of political will.
- **Lack of infrastructure to support population growth:** Strong population growth from the mid-2000s without adequate infrastructure and housing supply led to urban congestion and poor housing affordability. This led to poor productivity growth through increased transport costs, increased speculative activity around housing which diverted resources from more productive uses, and households trapped with excessive debt and financial instability.
- **Retirement of baby-boomers:** The entry of the baby boomers into the workforce in the 1970s slowed productivity (as new workers are usually less productive) and their retirement and replacement with a new wave of younger workers may reduce productivity growth in the 2020s.
- **A relatively slow take-up of technology:** New technologies have the power to transform productivity. Australian producers and governments have faced criticism about the pace of take-up of new some technologies (e.g. broadband where the Republic of Korea and Vietnam led the way).

Student Activity 12.2

1. Use the data in figure 12.4 to answer the following questions.
   (a) Describe and explain the relationship between productivity growth and economic growth.

   (b) Describe and explain the trend in labour productivity growth evident in the chart.

2. Reduce the list of structural factors affecting Australia's productivity performance to what you consider to be the five leading or most important factors. For each of your top five, state why it is included in your list.

12.5 MEASURES TO RAISE LABOUR PRODUCTIVITY

1. The scope of economic reform or supply-side policies

For several decades governments have been re-examining their presence in the economy with the aim of improving macroeconomic performance. Their supply-side or economic reform measures have involved both market intervention, through direct provision or regulation in areas of market failure, and market orientated measures in areas of government failure. These reforms aim to increase aggregate supply (i.e. shift SRAS down and LRAS to the right in the AD/AS model) by increasing productivity or efficiency in order to promote growth, employment and price stability.

Areas for particular focus have included:

- The level of taxation and tax reform (e.g. the level and structure of direct tax)
- Competition (e.g. control of monopoly power)
- Wage fixing arrangements (e.g. the award system and enterprising bargaining)
- Infrastructure capacity (e.g. transport and communications)

- International trade (e.g. free trade deals and membership of trade blocs)
- Research and innovation (e.g. CSIRO and at universities)
- Education (e.g. schools and TAFE, literacy, numeracy and skills)
- Migration (e.g. skilled migrants)

Interest in economic reform tends to increase when economic performance is below par and the nature of economic reform tends to reflect political persuasion of the government of the day as much as economic understanding. Productivity growth is not something that the government can simply gift to the economy. There are no quick and easy fixes. Supply-side reforms require (i) an acceptance of the importance of productivity growth, (ii) identification of measures that will boost productivity and growth in living standards, (iii) selling the measures to voters and (iv) the implementation of reforms in places of work.

2. What is the case for a market-orientated approach?

The case for a market-orientated approach to economic reform (and hence an increase in the role of free markets) is based on the concept of government failure. Government failure can occur because of:

- **Ill-defined goals:** Government Business Enterprises (GBEs) may have conflicting economic, social and political goals. They tend to make poor resource allocation and pricing decisions as a result.
- **Weak incentives and poor management:** GBE's do not have to make a profit. Therefore, managers and workers are not subject to 'market disciplines'. GBE's (and the people that work in them) are 'feather bedded' given their access to a potentially 'bottomless pot' of taxation revenue.
- **Removal of moral hazard:** Welfare, social security, and even a commitment to full employment, may lead to unproductive behaviour because people do not have to face the consequences of their actions (or inaction).
- **Rent-seeking behaviour:** Governments are often 'captured' by interest groups (e.g. farmers, shipbuilders and bankers). The interest groups may win special favours from the government that can cause a poor allocation of resources.
- **The burden of regulation:** Complying with government regulation is expensive and adds to business costs.

3. What policy measures are consistent with a market-orientated approach?

Market-orientated measures designed to raise productivity include:

- **Limiting the size of government:** While there is general support for many areas of government spending e.g. disability insurance, increased spending on the aged, health, education and defence, it is also recognised that ever higher government spending as a share of GDP can reduce productivity growth. Since the Charter of Budget Honesty Act 1998, the Treasurer has been required to deliver a fiscal strategy statement with each budget. For example, the 2022–23 Medium Term Fiscal Strategy included (i) targeting a budget balance, on average, over the course of the economic cycle that is consistent with the debt objective, (ii) controlling expenditure growth, while maintaining the efficiency and quality of government spending and guaranteeing the delivery of essential services, (iii) supporting revenue growth through policies that drive earnings and economic growth, while maintaining a tax burden consistent with a tax-to-GDP ratio at or below 23.9%, (iv) using the Government's balance sheet to support productivity-enhancing investments that build a stronger economy, support private investment and create jobs and (v) ongoing structural reforms to boost economic growth.
- **Tax reform:** The Australian tax system has a high reliance on direct taxes on income and profits which is thought to reduce incentives and enterprise. GST, the main indirect tax is levied on a declining portion of the economy and distorts affected markets.
- **Deregulation and privatisation:** While some regulations are beneficial others impose high compliance costs on businesses and hence households. The tendency is for regulation to mount over time whenever a problem in an industry crops up. While the regulatory burden on business may have been reduced in areas such as price

controls, international trade, monopoly supply and areas of government ownership, this has been offset by increased social regulations concerning the environment, workplace safety, building codes, planning and occupational health and safety.

- **Competition policy:** Competition reform aims to reduce market concentration without reducing opportunities for scale economies. Many Australian markets are oligopolies (e.g. supermarkets and banks) where resources may be used to promote non-price competition rather than extra output.
- **International trade and foreign investment:** Trade openness and intensity promotes an efficient use of resources and hence productivity growth. While some protectionism is justifiable (e.g. for quarantine or to protect strategic industries) and foreign investment scrutiny is important government intervention should not deter foreign traders and investors unnecessarily.

4. **What is the case for an interventionist approach?**

The case for more interventionist approach to the allocation of resources is to limit the extent of market failure. Examples of market failure include:

- **Public goods:** Non-rival, non-excludable goods are not provided in a free market because of the free rider problem.
- **Merit goods and positive externalities:** Free markets under-supply merit goods because they ignore positive externalities.
- **Demerit goods and negative externalities:** Free markets over-supply demerit goods because they ignore negative externalities.
- **The tragedy of the Commons:** Unregulated use of common access resources can lead to their exploitation and eventual destruction.
- **Monopoly power:** Monopolists, if unregulated, can distort markets through restricting supply and increasing prices.
- **Information Gaps:** Markets only allocate resources efficiently when prices fully reflect marginal costs and marginal benefits. If there are information gaps or the information is asymmetrical, it may be impossible to calculate the appropriate costs and benefits.

5. **Examples of interventionist measures designed to raise productivity include:**

- **Development of human capital:** Human capital includes the qualities of workers considered useful in the production process. It includes employee knowledge, skills, know-how, good health and education. Educated, skilled and healthy workers are likely to be relatively productive. The development of human capital requires investment in education and in healthcare. A net inflow of skilled migrants also has a positive impact on the quality of the labour force.
- **Management skills:** Productive businesses need skilled managers who can, for example, promote innovation, reduce waste, take calculated risks, promote networks and innovation hubs and manage industrial relations.
- **Infrastructure capacity:** Governments need to spend money on infrastructure or social overhead capital because it is a quasi-public good or natural monopoly. Examples where infrastructure capacity is important include the road network, rail and port facilities, communications networks and energy distribution. For example, transport infrastructure raises productivity by reducing urban congestion and fuel costs. The NBN and mobile network is important because waiting for a connection or slow data transfer is unproductive.
- **Investment and new technology:** Governments can support research and development in universities or businesses through grants or tax incentives or undertake it themselves. Foreign direct investment in Australia may also lead to transfers of technology. The adoption of new technology in production processes, e.g. 5G broadband, 3D printing, artificial intelligence, driverless trucks and trains in mines and advanced robotics in manufacturing, are likely to be more productive and innovative.
- **Housing supply:** The supply of affordable housing is essential for labour participation levels to increase. A more efficient planning and approvals process is needed to make it easier for institutional involvement in social build to rent housing, and for the supply of affordable housing to keep pace with demand.

Student Activity 12.3

1. The Laffer Curve, produced in the 1970s, was an early contribution to supply-side economics. The curve suggests that, as the rate of tax increases, tax revenue increases at first but then decreases. For example, tax revenue may fall after tax rate T2 in figure 12.5 because of (i) increased rates of (legal) tax avoidance and (illegal) tax evasion and (ii) increased disincentives and 'brain drain' effects.

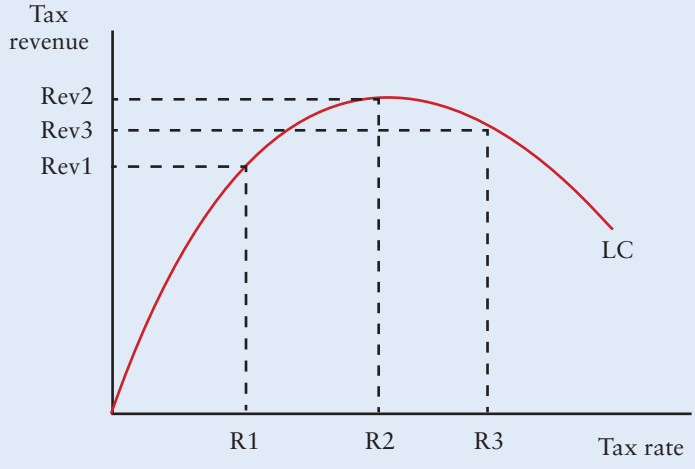


Figure 12.5

If this is true, it would be an argument for lower tax rates to incentivise workers and encourage inward migration in order to productivity.

(a) Research recent changes in the level and structure of income and business taxes in Australia, and discuss whether these changes appear to be consistent with the recommendations of the Laffer Curve.

(b) Suggest three reasons why the Government may wish to increase tax revenue.

2. There are a number of areas of the labour market and industrial relations that are subject to government regulation. Areas of interest include (i) the wage bargaining process including awards, enterprise bargaining and workplace agreements, (ii) the minimum wage and operation of the Fair Pay Commission, (iii) workplace rights such as penalty rates, leave entitlement and fair/unfair dismissal, (iv) Union rights e.g. their role in pay bargaining, in industrial action and secret ballots and access to the work place and (v) migration levels and work visas. Following the Jobs Summit in 2022, the Labor Government announced some labour market reforms that included:

- Plans to relax the BOOT to reboot Enterprise Bargaining. An enterprise agreement passes the Better Off Overall Test (BOOT) if the Fair Work Commission is satisfied that employees will be better off overall under the agreement than they would be under the relevant modern award. The BOOT is supported by unions, who see it as protection against wage cuts.
- The Fair Work Commission has been given more powers to help workers and business reach agreements, to set minimum standards in the road transport sector and to establish a National Construction Industry Forum to address health and safety issues.
- More flexibility is provided for achieving single and multi-employer arrangements for small business and some care services.
- Extended paid parental leave has been extended to 26 weeks and ways of sharing care responsibilities have been introduced.

(a) Research the difference between 'awards' and 'enterprise agreements'. Which approach is more interventionist and which is more market-orientated?

(b) State three reasons why the government intervenes in wage determination in the private sector.

(c) Identify three ways labour market and industrial relations reform could boost labour productivity.

3. The table lists a selection of measures claimed to be productivity enhancing measures included in the 2022–23 WA Budget or the 2022–23 Federal Budget. Complete the table by identifying how each of these measures could promote labour productivity.

	Measure	Link to productivity
(a)	Increased paid parental support and ways of sharing care responsibilities. Making child care more affordable.	
(b)	Reducing the cost of prescription medication by increasing co-payments. Increase investment in the public health system.	
(c)	Boosting NBN and mobile connectivity in regional and rural Australia.	
(d)	Increase in fee-free TAFE and university places. Finance for Jobs and Skills Australia to increase skills in priority sectors. Increased funding and investment in schools and universities.	
(e)	Increase migration to ease current skill and labour shortages. Advancing gender equality.	
(f)	Modernise the power grid coordinated by Rewiring Australia.	
(g)	Enshrine in law emissions reduction targets of 43% by 2030 and net zero by 2050. Building disaster resilience and preparedness (using a Disaster Ready Fund).	
(h)	Establish National Reconstruction Fund to help fund research into new technologies.	
(i)	Invest in road infrastructure e.g. upgrading the Tanami Road. Develop electric bus charging infrastructure in Perth.	
(j)	Negotiate new free trade deals. Create port additional capacity at Geraldton, Esperance and Bunbury.	
(k)	Work with small business, unions, workers and industry to deliver a simpler and fairer workplace relations system.	

SO YOU THINK YOU UNDERSTAND LABOUR PRODUCTIVITY	
Definition of labour productivity 1 2 **Other measures of productivity**	**Raising productivity – more government**
Measurement issues 1 2 3 4	**Raising productivity – less government**
Importance of productivity	**Raising productivity – private sector**
Why productivity is important for growth 1 2	**Productivity and other macro objectives** 1 2 3 4
The high growth cycle **Low growth cycle**	**Australia's recent productivity record** **Factors affecting productivity**

TEST YOUR KNOWLEDGE

Productivity Multiple-Choice Questions

1. How would a rise in productivity affect aggregate demand and aggregate supply?
   (a) The aggregate demand curve would shift to the right.
   (b) The aggregate demand curve would shift to the left.
   (c) The aggregate supply curve would shift down.
   (d) The aggregate supply curve would shift to the left.

2. Which one of the following is a likely consequence of productivity growth caused by successful economic reform?
   (a) An increase international competitiveness.
   (b) A decrease in aggregate demand.
   (c) An increase in unit wage costs.
   (d) The elimination of unused economic capacity.

3. The table shows GDP and hours worked in an economy between 2020 and 2023.
   In which year is labour productivity highest?

	Year	GDP ($b)	Hours worked
(a)	2020	1,000	10,000
(b)	2021	1,100	10,500
(c)	2022	1,200	11,000
(d)	2023	1,300	11,500

4. Which one of the following is LEAST likely to have contributed to a fall in labour productivity in Australia in the last decade?
   (a) A slow down in trend growth.
   (b) A slow take-up of new technologies by industry.
   (c) Investment in transport and communications infrastructure.
   (d) A rise in service sector activity in the economy.

5. Which one of the following statements is correct?
   (a) Investment in capital goods always increases productivity.
   (b) Labour productivity is the best measure of economic efficiency.
   (c) Productivity growth is measured by the rate of change in GDP over time.
   (d) Expanding skills training is likely to increase labour productivity.

6. Which of the following is NOT an example of economic reform?
   (a) Decreasing marginal income tax rates to reduce the overall burden of direct tax.
   (b) A free trade agreement between Australia and the UK.
   (c) A reduction in cash rates by the Reserve Bank to stimulate consumption and planned investment.
   (d) Training more science, technology and mathematics teachers.

7. Which one of the following is the most likely negative outcome of economic reform?
   (a) A rise in the level of imported goods.
   (b) An increase in the current account deficit on the balance of payments.
   (c) A rise in the level of frictional unemployment.
   (d) Higher consumer prices as a result of increased cost-push and demand-pull pressure.

8. An increase in labour productivity will lead to:
   (a) slower growth and higher inflation.
   (b) a fall in unemployment to a level below the natural rate of unemployment.
   (c) A rise in the level of potential output.
   (d) Depreciation of the exchange rate and a worsening of the terms of trade.

9. Which of the following is LEAST LIKELY to lead to an increase in productive efficiency in the Australian economy?
   (a) Deregulation in labour markets allowing more flexibility in wage negotiations.
   (b) An increase in the level of public ownership in electricity and gas supply to ensure the security of energy supplies to households and business.
   (c) An inflow of foreign direct investment into the agricultural sector.
   (d) An increase in port capacity in Western Australia.

10. Which of the following examples of economic reform is market orientated?
   (a) Reducing monopoly power in the retail sector.
   (b) Increasing health and safety regulations in the mining sector.
   (c) Increasing tariffs and quotas on goods imported from China.
   (d) Government spending on the development of electric bus charging infrastructure in Perth.

TRIAL TEST 1:

Time allowed: 3 hours
Section A – Multiple Choice – 20 x 1 = 20 marks maximum
Section B – Short Answers – 4 x 10 = 40 marks maximum
Section C – Long Answers – 2 x 20 = 40 marks maximum
Total marks: 100 marks

SECTION A

Attempt all question from this section. Each question is worth 1 mark

1. Which of the following provide evidence of Australia's increased participation in the global economy during recent decades?

   I. An increase in Australia's trade intensity or trade openness.
   II. A rise in the number of multinational companies producing products in Australia
   III. An increase in non-resident or foreign skilled workers employed in Australia
   IV. A reduction in the volatility of the value of the Australian Dollar

   (a) IV only
   (b) II and III only
   (c) I, II and III only
   (d) All are correct

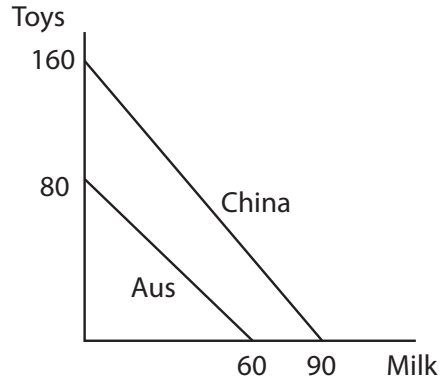
2. The question refers to the table below that shows the production possibilities for two countries assuming that their resources are divided equally between both products.

	Units of shirts	Units of wheat
Country A	15	30
Country B	20	40
Total	35	70

   Assuming there are no economies or diseconomies of scale, total output can be increased when:

   (a) Country A specialises in shirts and Country B specialises in wheat
   (b) Country B specialises in both shirts and wheat
   (c) Country A specialises in wheat and Country B specialises in shirts
   (d) Only if there are dynamic gains from increased competition

3. The diagram shows the production possibility curves for Australia (Aus) and China for the production of milk and toys. Which one of the following is a correct statement?



(a) China has a comparative advantage in both products
(b) China should specialise in, and export, toys
(c) Australia has an absolute advantage in producing milk
(d) Australia has a comparative advantage in producing toys

4. Tariffs reduce imports by _____ of imports, subsidies reduce imports by _____ of domestic producers and quotas reduce imports by _____ .

The missing words are, respectively,

(a) Raising the price, reducing production costs, setting a ceiling for the quantity of imports
(b) Raising the price, raising production costs, reducing the price of imports
(c) Raising the price, reducing production costs, setting a floor for the quantity of imports
(d) Reducing the price, reducing production costs, reducing the price of exports

5. Assume the Australian Government wishes to protect Australian producers of solar panels. Which one of the following forms of protectionism will result in the lowest price for Australian consumers of solar panels?

(a) Tariffs
(b) Subsidies
(c) Quotas
(d) Local content laws

6. Which of the following is LEAST convincing as an explanation of the changes in the pattern of Australia's trade in recent years?

(a) The Asia-Pacific region has achieved higher rates of economic growth than Europe.
(b) The discovery of, and production from, major natural gas reserves in Australia
(c) Higher costs of transporting goods around the world has given Australia a disadvantage when exporting to the Asia-Pacific region compared with Europe.
(d) China has become a more significant participant in world trade.

7. Which of the following financial flows is recorded in the financial account of the balance of payments?

(a) Foreign investment
(b) Interest payments on money borrowed from overseas
(c) Trade in goods
(d) Trade in services

8. Which of the following will occur in Australia as a result of a fall in commodity prices?

(a) A rise in the terms of trade and a deficit on the financial account of the balance of payments
(b) A decrease in the net goods account of the balance of payments, and a fall in the terms of trade
(c) Depreciation in the exchange rate value of the Australian dollar, and a rise in the terms of trade.
(d) A fall in world prices for minerals and an appreciation of the Australian dollar.

9. Which of the following is most likely to result from a fall in Australia's terms of trade?

(a) An appreciation of the Australian dollar.
(b) Narrowing of the current account deficit
(c) Stronger economic growth in Australia
(d) A fall in real incomes in Australia

10. Which of the following has the most impact on the balance of trade of an economy when there is a change in the terms of trade?

(a) The sum of price elasticity of demand for exports and imports
(b) The rate of inflation in Australia
(c) The relative level of interest rates
(d) Whether the change is caused by export prices or import prices

11. Which of the following is consistent with a fall in Australia's terms of trade?

I. A rise in the price of imported computers and electrical products.
II. A fall in growth overseas and a corresponding fall in the demand for commodities.
III. Increased Australian participation in global value chains and the export of elaborately transformed manufactures.
IV. A rise in the price of dairy products sold by Australian farmers to Asian consumers

(a) Options I and II are correct
(b) Options III and IV are correct.
(c) Options I and III are correct
(d) All options are correct.

12. The following table refers to a hypothetical economy.

	Inflation rate (% per year)	Value of exports ($b)	Value of imports ($b)	Average price of exports (Index)	Average price of imports (Index)	Exchange rate (USD/AUD)
2020	5	120	140	75	100	0.65
2024	3	180	165	100	80	1.10

Based on the data in the table, which one of the following happened between 2020 and 2024?

(a) The terms of trade increased from 75 to 100
(b) The trade balance increased from a deficit of $20b to a surplus of $15b
(c) The exchange rate appreciated by 45%
(d) Interest rates fell

13. Which of the following correctly describes the affect of an increase in net foreign investment into Australia?

(a) An increase the current account deficit, an appreciation in the dollar and an unpredictable impact on exports.
(b) A decrease in the financial account balance, a depreciation of the dollar and a decrease in exports.
(c) A depreciation of the dollar, increased exports and reduced imports.
(d) An increase in the current account balance as a result of a rise in exports.

14. Which of the following is most likely to cause the value of the Australian dollar to change from USD1 = AUD 1.25 to USD1 = AUD 1.50?

(a) A rise in the value of the US Dollar
(b) A fall in commodity prices.
(c) A rise in the rate of economic growth in Australia.
(d) An increase in the cash rate.

15. What is measured in the Trade Weighted Index?

(a) The value of the Australian Dollar compared to the value of a basket of currencies of our major trading partners.
(b) The ratio of the total value of exports to the total value of imports for Australia.
(c) The cost of making goods in Australia compared to the cost of making goods overseas
(d) Prices of Australian exports compared with the prices of Australian imports.

16. Assuming the exchange rate is AUD 1 = USD 0.75, what will be the price in Australian Dollars (AUD) of an imported American car valued at USD 20,000?

(a) AUD 26,667
(b) AUD 15,000
(c) AUD 20,000
(d) AUD 40,500

17. Which of the following would help reduce Australia's foreign debt?

(a) An increase in the current account deficit.
(b) An increase in the Commonwealth Government budget deficit.
(c) An increase in the rate of household saving.
(d) An increase in domestic consumer spending.

18. What is the difference between an increase in foreign equity and an increase in foreign debt?

(a) An increase in foreign debt involves a foreign firm gaining greater than 10% of the ownership of an Australian firm whereas an increase in foreign equity involves less than a 10% transfer of ownership
(b) An increase in foreign equity is recorded on the capital and financial account whereas an increase in foreign debt is recorded on the current account.
(c) The transfer of new technology and management practices only takes place when there is an increase in foreign debt.
(d) An increase in foreign debt is less likely to result in a loss of control and ownership of Australian resources.

19. Which of the following is regarded as foreign direct investment?

(a) The purchase of 25 per cent of the shares in a Japanese firm by an Australian firm
(b) The purchase of 7.5 per cent of the shares in an Australian firm by a Chinese firm
(c) A loan of USD 25m by a Japanese bank to an Australian bank
(d) The purchase of Australian Government 10 year bonds by the Chinese Central Bank

20. Which of the following is a positive outcome from an inflow of net foreign investment for Australian consumers?

(a) It leads to a fall in the value of the Australian dollar.
(b) It avoids the instability caused by business cycles.
(c) It can increase labour productivity and hence workers' incomes
(d) It reduces the terms of trade.

SECTION B

Data Interpretation (40 marks) - Suggested time: 60 minutes
Answer ALL FOUR (4) questions. Each question is worth 10 marks.

21. Assume the table shows the balance of payments accounts for Australia for a given year. Figures are in AUD millions.

Current Account		Capital Account	-1
Exports of goods	231		
Imports of goods	220	**Financial Account**	
Exports of services	53	Net direct investment	17
Imports of services	56	Net portfolio investment	49
Primary income inflows	43	Net other investment	-14
Primary income outflows	88	Net Reserve Bank	-11
Secondary income inflows	6		
Secondary income outflows	7	Net errors and omissions	

(a) (i) Define the term 'primary income' and give an example of a primary income outflow from Australia. (1 mark)

(ii) Define the term 'portfolio investment' and give an example of a financial inflow into Australia that would be classified as portfolio investment. (1 mark)

(b) Calculate the following values using the data in the table. (3 marks)

Balance on goods and services	
Current Account balance	
Net errors and omissions (Balancing item)	

(c) Explain three links that demonstrate the interdependence of the financial flows recorded in the current account and financial account of the balance of payments. (5 marks)

22. The decline in manufacturing has been going on for a long time. It's not something that has happened because of the mining boom and the high exchange rate that went with it. This loss of jobs in manufacturing has being occurring steadily fort least four decades.

To a large degree this reflects the difficulties that manufacturing faces in Australia compared with countries like the United States and Japan. Manufacturing is about large-scale production to gain economies of scale. With our small population and distance from the richer world markets we have never had access to the size of market that is needed to underpin large-scale production.

Adapted from news stories.

(a) Explain why parts of Australian manufacturing industry have become relatively uncompetitive over the last two decades. (2 marks)

(b) Draw a diagram to show the effect of higher commodity prices on the value of the Australian Dollar. Explain the key points in your diagram. (3 marks)

(c) Discuss whether protectionist measures, such as the imposition of tariffs or quotas or the payment of production subsidies, are an appropriate response to the decline in manufacturing jobs? (5 marks)

23. The Comprehensive and Progressive Trans Pacific Partnership (CPTPP) is a trade agreement that aims to expand trade and investment between the a number of countries in different parts of the world including Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam. These countries have a total population of nearly 750m people, and a combined GDP of about USD $30 trillion equal to 35% of global GDP. Nearly a third of Australia's total trade is conducted with the these countries. The aim of the agreement is to forge close links among these economies, enhance competitiveness, benefit consumers and support the creation and retention of jobs, higher living standards, and the reduction of poverty.

(a) What is a 'trading bloc'? What kind of trading bloc will the Comprehensive and Progressive Trans Pacific Partnership (CPTPP) be? (2 marks)

(b) Using a diagram explain how reducing tariffs on cars or textiles increases the nation's economic competitiveness and real national income. (3 marks)

(c) Explain why the benefits Australia would get from membership of the CPTPP might be less than those hoped for by the Australian Government. (5 marks)

24. Since 2019, in contrast to long-running deficits, the current account balance has been in surplus, supported by record trade surpluses. The flip side of this is that the value of national savings is now greater than the value of investment making Australia a net exporter of capital. As a result there has been a significant decline in Australia's net foreign liability position as a percentage of GDP, which is at its lowest levels in a number of decades.

(a) Define the following terms

(i) current account surplus (1 mark)

(i) net foreign liabilities (1 mark)

(b) (i) What is the relationship between the savings-investment gap and net capital inflows? (1 mark)

(ii) What is the relationship between the capital and financial account deficit and the current account surplus? (1 mark)

(c) Identify three reasons why Australia has become a net exporter of capital.
(1 x 3 marks = 3 marks)

(d) State three consequences of the decline in Australia's net foreign liability position.
(1 x 3 marks = 3 marks)

SECTION C –- Essay questions

Answer TWO of the following questions

25. (a) Describe some of the important aspects of economic activity in which economies have become more integrated. (6 marks)

(b) Explain the relationship between changes in the pattern of Australia's trade and the internationalisation or globalisation of the Australian economy. (14 marks)

26. (a) Describe the composition of Australia's foreign liabilities. (6 marks)

(b) Explain three advantages and three disadvantages of increased level of foreign direct investment in Australia. (14 marks)

27. (a) Define and explain the meaning of the term 'terms of trade' and account for recent changes in Australia's terms of trade. (8 marks)

(b) Using an appropriate economic model, explain how a change in terms of trade changes material living standards in Australia. (12 marks)

28. (a) Distinguish between credit and debits in the balance of payments accounts. Give three examples of credit flows and three examples of debit flows. (6 marks)

(b) Explain the relationship between the exchange rate and selected credit and debit flows in the balance of payments accounts. (14 marks)

TRIAL TEST 2:

Time allowed: 3 hours
Section A – Multiple Choice – 20 x 1 = 20 marks maximum
Section B – Short Answers – 4 x 10 = 40 marks maximum
Section C – Long Answers – 2 x 20 = 40 marks maximum
Total marks: 100 marks

SECTION A

Attempt all questions from this section. Each question is worth 1 mark.

1. Which of the following is most likely to happen in an economy when there is a rise in aggregate demand without a change in aggregate supply?

   (a) A rise in cyclical unemployment and a fall in cost-push inflation
   (b) An increase in economic growth and a fall in the labour force participation rate
   (c) A rise of the price level and economic growth
   (d) A fall in cyclical unemployment and a fall in demand pull inflation

2. Which one of the following is most likely to be a feature of an economy in an economic recovery?

   (a) An increase in the structural budget deficit
   (a) A rise in bankruptcies forcing firms to go out of business
   (b) A rise in hours worked
   (c) A fall in cash rates

3. Which of the following is a counter-cyclical indicator (i.e. one than moves in the opposite direction to the economy)?

   (a) The consumer price index
   (b) The participation rate
   (c) Energy and concrete production
   (d) The unemployment rate

4. Which of the following is most likely to cause an upward shift in the consumption function in the Australian economy?

   (a) A rise in the Federal Government budget deficit causing an increase in sovereign debt
   (b) A fall in median house prices and instability on the Australian Stock Exchange
   (c) Increased fear of unemployment due to closures in manufacturing industries
   (d) A fall in interest rates and a rise in consumer sentiment

5. Which one of the following will shift the investment demand curve to the right?

(a) Economic recovery in Japan and a free trade deal with China
(b) The fall in the level of investment in the mining industry
(c) A rise in the real rate of interest
(d) Failure to sign a free trade deal with China

6. This question assumes a closed economy with no government intervention. If, in a particular period of time, Income (Y) = 4000, Consumption (C) = 3000, Savings (S) = 1000 and Planned investment (I) = 1000, then:

(a) The economy is in disequilibrium and the amount of income earned in the next period will increase
(b) The economy is in disequilibrium and the amount of income earned in the next period will decrease
(c) The economy is in equilibrium and there will be no change in the level of income in the next period
(d) The economy is in equilibrium so planned expenditure in the next period will rise to 4000.

7. In a closed economy with no government, the marginal propensity to consume is 0.6. Planned savings equals planned investment at $1000m. An autonomous fall in planned investment of $40m will eventually cause

(a) income to fall by $40m and the level of aggregate savings to fall by $100m
(b) income to fall by $40m and the level of aggregate savings to fall by $40m
(c) income to fall by $100m and the level of aggregate savings to fall by $40m
(d) income to rise by $167m and the level of aggregate savings to rise by $40m

8. Assume the Keynesian expenditure multiplier is 2 and the government increases spending by $100m. The final change in economic activity caused by the increased government spending, other things being equal will be:

(a) $50m; (b) $100m; (c) $150m; (d) $200m

9. The equations of the consumption function and investment function in an economy are as follows: C = 1000 + (0.8) Y, Ip = 250. The size of the Keynesian expenditure multiplier coefficient will be:

(a) $5000; (b) $2000; (c) 0.2; (d) 5

10. When the economy's long-run aggregate supply (LRAS), short-run aggregate supply (SRAS) and aggregate demand (AD) curves intersect at a single point this represents a level of economic activity where:

(a) Economic growth is at the economy's trend growth rate
(b) It is in long-run macroeconomic equilibrium
(c) The level of unemployment is below the natural rate of unemployment
(d) The inflation rate is in within the RBA target range

11. Although economic growth and higher employment are compatible objectives, the effect of growth on employment will be reduced if

(a) There is a rise in labour productivity and a fall in labour force participation
(b) There is a fall in labour productivity and a rise in labour force participation
(c) There is a rise in labour productivity and a rise in labour force participation
(d) There is a fall in labour productivity and a fall in labour force participation

12. The central banks and governments in most western countries play an active role in macroeconomic demand management because:

(a) the self-adjustment processes in the economy are powerful and effect the economy quickly
(b) the multiplier effect is powerful and effects the economy quickly
(c) the economy adjusts powerfully and quickly to changes in cash rates
(d) there are fluctuations in the level of economic economy that are associated with the business cycle

13. An increase in cash rates will:

(a) Reduce the cost of borrowing for firms and households, encouraging them to increase spending
(b) Reduce asset prices, thereby decreasing wealth and spending
(c) Increase the cash flow available to firms and households, allowing them to increase spending
(d) Increase the cash flow of households and business, leading to a rise in investment and consumption

14. Which of the following describes the impact of a rise in interest rates on the exchange rate?

(a) The exchange rate usually appreciates as financial capital outflows increase
(b) The exchange rate usually depreciates as financial capital inflows fall
(c) The exchange rate usually appreciates as financial capital inflows increase
(d) The exchange rate usually depreciates as financial capital outflows fall

15. Which of the following is a correct description of fiscal policy?

(a) Changes in the money supply and interest rates to pursue macroeconomic policy goals, including price stability and high employment
(b) The manipulation of the price level, the level of real GDP, and total employment by the Reserve Bank
(c) Changes in federal taxes and spending that are intended to achieve macroeconomic policy objectives
(d) The use of a range of economic policies to improve economic efficiency.

16. When the government makes policy changes that alter the relationship between tax revenue and government spending, this is called:

(a) Automatic fiscal stabilisation or passive fiscal policy
(b) Discretionary microeconomic reform or supply-side reform
(c) Cyclical fiscal reform or active monetary policy
(d) Discretionary fiscal policy or fiscal activism

17. In the Keynesian way of thinking, which of the following is an appropriate reaction by the Government to a downturn in the economy?

(a) Reduce expenditure and leave tax revenue constant in order to stimulate aggregate demand in the short run
(b) Increase government spending and/or decrease taxes in order to increase aggregate demand in the short run
(c) Decrease government spending and/or increase taxes in order to decrease aggregate supply
(d) Change spending and taxation without affecting aggregate demand or aggregate supply

18. Which of the following is the objective of economic reform?

(a) Reduce aggregate demand to prevent inflation exceeding the target range
(b) Improve economic efficiency
(c) Reduce the level of government involvement in the economy
(d) Improve business economic decision-making

19. Which of the following is an example of dynamic efficiency?

(a) A firm does not produce its products at the minimum cost possible.
(b) The government has to pay a subsidy to a firm for them to stay internationally competitive.
(c) A firm is able to export its products because its products satisfy the demands of overseas customers.
(d) A firm misreads the market and is left with surplus stock.

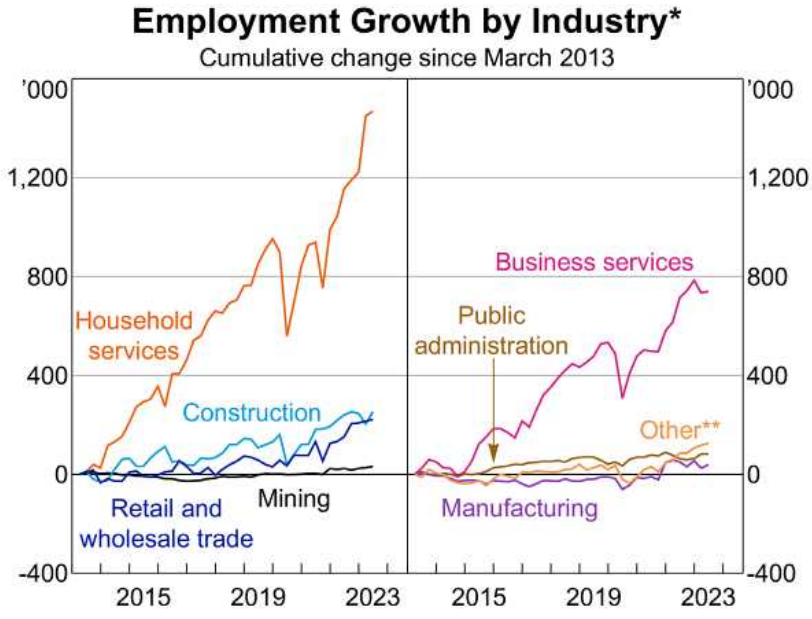
20. Which one of the following is most likely to improve labour productivity in Western Australia?

(a) An increase in the terms of trade.
(b) A rise in the labour force participation ratio.
(c) An increase in spending on transport infrastructure.
(d) The introduction of stricter planning and building regulations.

SECTION B

Data Interpretation (40 marks) – Suggested time: 60 minutes
Answer ALL FOUR (4) questions. Each question is worth 10 marks.

21.



* The trend series have been suspended from June 2020 until more certainty emerges in the underlying trend in labour market activity over the COVID-19 period.

** Includes agriculture, forestry & fishing; transport, postal & warehousing; and electricity, gas, water & waste services.

Source: ABS.

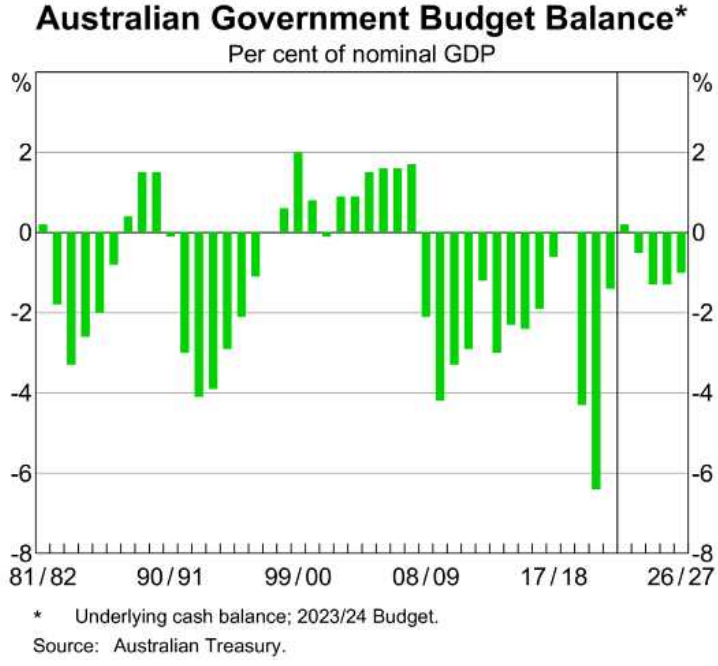
(a) (i) Estimate the change in employment in household services between 2013 and 2023. (1 mark)

(ii) In which two industry sectors was cumulative employment growth between 2013 and 2023 weakest? (1 mark)

(b) Describe two reasons for the growth in employment in services during the period covered in the chart. (4 marks)

(c) Describe two consequences of the changes in the pattern of employment between 2013 and 2023. (4 marks)

22.



(a) (i) Estimate the size of the budget balance as a percentage of GDP during 2020-21 (two years before the vertical black line). (1 mark)

(ii) Describe the budget stance the government in the period following the pandemic (2020-21) (1 mark)

(b) Describe two factors that have made it difficult for the government to return the budget to surplus. (4 marks)

(c) Explain two advantages and two disadvantages of achieving a budget surplus. (4 marks)

23. The table shows selected economic indicators for a hypothetical economy similar to Australia.

Economic indicator	Year 1	Year 2	Year 3
Growth in GDP (% per year)	3.2%	2.7%	2.5%
Growth in retail turnover at current prices (% per year)	3.6%	3.1%	2.9%
Change in Consumer Price Index (% per year)	1.7%	2.3%	2.1%
Unemployment rate (%)	6.2%	6.4%	6.5%
Growth in average weekly earnings (% per year)	2.4%	2.2%	2.6%
Growth in capital expenditure (% per year)	-3.9%	-1.5%	1.4%
Index of consumer expectations (50 = neutral)	54	49	48

(a) (i) State the rate of inflation in Year 1 (1 mark)

(ii) State the rate of economic growth in Year 1 (1 mark)

(b) Using examples from the table, state the difference between a leading indicator and a lagging indicator of economic activity (3 marks)

(c) Using data from the table, examine the relationship between the level of growth, inflation and unemployment during this period. (5 marks)

24.
- Between 2022 and 2024, interest rates were increased to 4.1%. At first the cash rate was increased to withdraw the support provided during the pandemic, then it was increased to move monetary policy into restrictive territory to combat the highest rate of inflation experienced in Australia in more than 30 years.
- During 2023 the cash rate was held steady at times to allow the RBA more time to assess the impact of their rapid rate increases and the economic outlook. Some further tightening of monetary policy may well be needed to return inflation to the 2 to 3 per cent target range within a reasonable timeframe.
- This is important because persistently high inflation is corrosive and damages our economy. It erodes the value of savings, puts pressure on household budgets and hurts people on low incomes the most. High inflation makes it harder for businesses to plan and it distorts investment. And if inflation becomes ingrained in expectations, it requires even higher interest rates and a larger increase in unemployment to get it back down again.

(a) Outline the RBA's monetary policy stance during the last two years. (2 marks)

(b) Explain the time lags encountered during the conduct of monetary policy. (3 marks)

(c) State the RBA's inflation target and describe why the RBA considers it important to restore low inflation rates in the economy. (5 marks)

SECTION C – Essay questions

Answer TWO of the following questions

25. (a) Explain the concept of the business cycle. (6 marks)

(b) Describe the factors that provide a lower turning point or floor to the business cycle. (14 marks)

26. (a) Describe how a fall in cash rates affects the level of aggregate demand in an economy. (8 marks)

(b) Discuss the effectiveness of monetary policy measures when economic growth is subdued or below trend. (12 marks)

27. (a) Explain the concept of economic efficiency and outline one common way of measuring economic efficiency. (6 marks)

(b) Explain the two advantages and two disadvantages of improving labour productivity. (14 marks)

28. (a) Explain the relationship between aggregate demand (AD) and the price level and the factors that can cause movements along and shifts of the AD curve. (8 marks)

(b) Using the aggregate demand and aggregate supply model describe how an increase in fall in oil prices would affect the performance of the economy. (12 marks)

ANSWERS TO REVIEW QUESTIONS

CHAPTER 1: AUSTRALIA'S INTERNATIONAL TRADE

Student Activity 1.1

1. *See section 1.1.*
2. *Freedom of movement of goods, services, financial capital and people.*

Student Activity 1.2

1. *Openness is a simple measure of a country's overall level of trade whereas trade intensity is a measure of the level of trade with specific countries. So openness indicates overall importance and intensity indicates the direction of trade. See sections 1.1 and 1.2.*
2. *(i) Dominated by Asia, (ii) China is the most important trading partner.*
3. *(a) About 30% of Australia's trade is with China. There have been important gains from trade with East Asian countries, which would be lost if alternative suppliers and markets had to be found;*
   (b) There is a clear pattern of comparative advantage, Australia has resources that China demands and they produce the manufactured goods that we demand;
   (c) The origin of the Covid virus, security fears over Chinese involvement in Australia's 5G network;
   (d) Worsening of diplomatic relations, increase in geo-political activity in the South China Sea.

Student Activity 1.3

1. *See chart in section 1.4. Resources about 65%, Services 13%, Rural commodities 11% and manufacturing 8%.*
2. *See chart in section 1.4. Consumption goods about 32%, Services 13%, Intermediate goods 33% and capital goods 21%.*
3. *Resource endowment, industrialisation of China and other East Asian economies, transport and communications technologies, free trade deals.*
4. *There will be some changes because of, for example, free trade deals, changes in growth rates, increased geo-political tension and climate change.*

Student Activity 1.4

1. *Your research. Look at* www.dfat.gov.au *as a suggestion.*
2. *All, which should not be a surprise.*
3. *(a) Improved access to markets and duty free quotas for a number of exports;*
   (b) The trade deal favours Australia more than the UK.

Chapter 1 – Review Questions

1. B; 2. A; 3. A; 4. C; 5. D; 6. B; 7. A; 8. B; 9. C; 10. D

SO YOU THINK YOU UNDERSTAND AUSTRALIA'S INTERNATIONAL TRADE	
Six main areas of economic integration 1 Free movement of goods 2 Free movement of services 3 Free movement of capital 4 Free movement of people 5 Convertible currencies 6 Spread of ideas and culture	**Four changes to the pattern of trade caused by global integration** 1 New growth hotspots (e.g. China, SE Asia) 2 Development of trading blocs - reduced tariffs 3 More trade in intermediate goods - supply chains 4 More capital goods traded
Examples of Australia's global links Global brands Participation in supply chains Multinational corporations e.g. in mining Travel and tourism. Currency convertibility.	**Top five trading partners** China Japan US Republic of Korea Singapore

SO YOU THINK YOU UNDERSTAND AUSTRALIA'S INTERNATIONAL TRADE	
Trade openness (Exports + Imports) / GDP Level for Australia about 40% (middle ranking)	**Trade intensity** Comparison of level of trade between Australia and another country with the world's trade with that country.
Importance of trade for Australia More efficient use of resources Dynamic gains (e.g. competition and scale) Access to cheaper imports Rise in material living standards Employment Rise in producer and consumer surplus	**Factors affecting trade intensity** Proximity of countries Relative levels of competitiveness in given products in each country Free trade agreements - level of protectionism Historical and cultural ties Growth rates in the two countries
Composition of exports Resources (65%) e.g. iron ore, LNG Services (15%) e.g. education, travel, tourism Rural (10%) e.g. beef and wheat Manufacturing (10%) e.g. medical equipment	**Australia's intensity levels** Relatively intense: China and other East Asian economies Neighbours e.g. New Zealand Relatively less intense US and Europe although level of trade still significant.
Composition of imports Intermediate goods (33%) e.g. telecom equipment Consumption goods (32%) e.g. electrical goods Capital goods (20%) e.g. machines, oil rigs Services (15%) e.g. travel, tourism	**Australia's trade issues** Economic dependency on China by security and defence dependence on US. High level of fossil fuel exports and need to reach net zero carbon emissions.
Australia's trade policy Generally supportive of international trade and foreign investment. Over 70% of trade covered by free trade agreements. Protectionist measures in place to protect strategic and sensitive industries (e.g. telecommunications).	**Australia's free trade agreements** • Regional Comprehensive Economic Partnership (RCEP) - biggest FTA but built on previous separate agreements. • ASEAN membership • Long standing agreements with e.g. China, US and NZ.

CHAPTER 2: FREE TRADE AND PROTECTIONISM

Student Activity 2.1

1. *(a) Product 1 imported, Product 2 exported;*
   (b) Shade in the trapezium in each diagram;
   (c) Producers sell more at higher prices, consumers consume more at lower prices;
   (d) Product 1 – manufactured goods, Product 2 – commodities.

Student Activity 2.2

1.

Step 1	Apples	Biscuits
Austria	15	5
Belgium	10	20
Total	25	25

Step 2	Apples	Biscuits
Austria	1A = 0.33B	1B = 3A
Belgium	1A = 2B	1B = 0.5A

Step 3: Austria makes Apples and Belgium makes biscuits.

Step 4	Apples	Biscuits
Austria	30	0
Belgium	0	40
Total	30	40

Step 5: Terms of trade have to be between 1A = 2B and 1A = 0.33 B

Step 6	Apples	Biscuits
Austria	30 – 15 = 15	15
Belgium	15	25
Total	30	40

Student Activity 2.3

1. *(a) 2 beef = 3 corn;*
   (b) 2 beef;
   (c) PPF goes from 75 beef to 75 corn;
   (d) 1 beef = 1 corn;
   (e) 1 beef;
   (f) PPF still goes from 100 to 100;
   (g) 1 beef = 1 corn and 1 beef = 1.5 corn.

Student Activity 2.4

1. *See section 2.5 number 3.*
2. *Fall in unit costs as the level of output increases. Trade allows specialisation and an increase in production in competitive industries.*
3. *Greater competition means reduced monopoly power and encourages efficiency.*
4. *Because there are dynamic gains from trade – see section 2.6 number 3.*

Student Activity 2.5

1. *(a) Industries could be deemed sensitive e.g. if they employ are large number of people in a region, have a long tradition of production in an area, or produce a product that is considered emblematic or iconic. Continued production might generate broader social and economic benefits.*
   (b) Coal industry (large export revenue, regional employment), telecommunications networks (vital role in security), Qantas (national airline).
   (c) Embargo, tariffs, domestic subsidies.
2. *Dumping occurs when an overseas producer exports excess supply to another country below the cost of production or unjustifiably low prices. It is difficult to prove that prices are unfairly low.*
3. *An industry in its growth stage and, therefore, in the short term, internationally uncompetitive because it can't achieve economies of scale. Given the opportunity to mature, the industry has the potential to become competitive. It is difficult to judge when an industry is mature enough to stand on its own feet.*
4. *It is difficult to say what is, and what is not strategic. Your answer probably depends on whether you think international trade will be disrupted or not. Should we build our own submarines rather than import them from Japan? The capacity to build them and availability of skills in the workforce might have significance.*

Student Activity 2.6

1. *Promote fair trade and resolve trade disputes.*
2. *A country should treat imports from all countries in the same way and not give undue advantage to its domestic producers.*
3. *To counter dumping and as a member of a trading bloc.*
4. *Difficult to get agreement between its many member countries, complexity of trade and investment agreements and lack of effective sanctions.*

Student Activity 2.7

1.

	Without a tariff	With a tariff
Price paid by consumers	Lower	Higher
Quantity of goods bought by consumers	Higher	Lower
Level of consumer surplus	Higher	Lower
Level of producer surplus	Lower	Higher
Government revenue from tariff	None	Some
Overall deadweight loss	Not applicable	Some

2. *(a) Fallen from Q4-Q1 to Q3-Q2;*
   (b) Rectangle C;
   (c) Higher – now at world price plus tariff;
   (d) Reduced by A+B+C+D;
   (e) Increased by area A;
   (f) Deadweight loss = two triangles D+D.

Student Activity 2.8

1. *Subsidies make domestic producers more competitive. Equilibrium price reduced from Pep to Ps in the diagram.*
2. *The welfare loss is shown in the diagram. Domestic producers sell more and consumers pay lower prices but the government/taxpayer has to fund the subsidy.*

Student Activity 2.9

1. *See figure 2.10. The impact of a quota is similar to that of a tariff for producers and consumers but now there is no revenue for the government. In the real world the government would charge a fee for an import licence.*

Student Activity 2.10

1. *Policy measures designed to support domestic producers and restrict imports.*
2.

Protectionist measure	Brief description	Example
Tariffs	Tax on imported products	Footwear
Subsidies	Payments to producers to reduce production costs	Shipbuilding
Quota	Quantitative limit on imports	Some meat imports
Embargo	Zero quota	Bananas
Tariff rate quota	Two-tier tariff, higher tariff paid when quota has been reached	Some food imports
Voluntary restraint agreements	Voluntary control of level of exports by another country	Shoes from China
Specification of product standards and quarantine	Add costs to producers' overseas	Electrical equipment Food and plant imports
Exchange controls	Restricting availability of foreign currency to pay for imports	South American countries, e.g. Venezuela
Discretionary government procurement	Government and public sector buys local produce	Construction contracts
Local content laws	Stated proportion of product must be supplied locally	Entertainment

Chapter 2 – Review Questions

1. A; 2. B; 3. B; 4. B; 5. C; 6. D; 7. C; 8. B; 9. D; 10. D

SO YOU THINK YOU UNDERSTAND TRADE AND PROTECTIONISM	
Two areas of gains from trade 1 Static gains (better resource allocation) 2 Dynamic gains (from the process of trade) **Five areas of dynamic gains from trade** 1 Economies of scale 2 Competition (reduced monopoly power) 3 Broader range of products available to buy 4 Interdependence and the peace dividend 5 Reduction of administrative costs at the border	**Two main categories of protectionism** 1 Tariff barriers 2 Non-tariff or technical barriers **Seven examples of non-tariff barriers** 1 Production subsidies 2 Quotas 3 Safety rules and design specifications 4 Exchange controls 5 Discretionary government procurement 6 Local content laws 7 Voluntary export restraint agreements

SO YOU THINK YOU UNDERSTAND TRADE AND PROTECTIONISM	
Model 1 – Consumer and Producer surplus Show gains from cheaper imports Show world price below domestic price Identify gain in consumer surplus Sketch gains from more exports Show world price above domestic price Identify gain in producer surplus	**Tariffs** Removing tariff shifts world price downward. Gain in consumer surplus bigger than loss in producer surplus and loss of government tariff revenue. Overall gain of welfare shown by the two small triangles.
Model 2 – Comparative Advantage Absolute advantage = Ability to produce a product more efficiently than another country Comparative advantage = Lower opportunity cost when producing a product than another country	**Sketch subsidy diagram to show fall in imports and deadweight loss** Shift supply curve down to right. Producer gain offset by cost of providing subsidy. Show overall deadweight loss.
Rules for calculating opportunity cost Output data: Use 'other goes over' rule Input data: Use 'other goes under' rule **Rules for double advantage examples** 1 Work out comparative advantage 2 Weak economy specialises completely 3 Strong economy partially specialises **Rule for dealing with input data:** Convert it to output data	**Sketch quota diagram to show fall in imports and deadweight loss** Like tariff diagram but without government tariff revenue. Note government may get some revenue from selling import licences.
Seven key assumptions about calculations 1 Only two countries 2 Constant returns to scale 3 Goods are homogenous 4 No transport costs 5 No political, social or cultural barriers 6 Terms of trade suit both countries 7 Consumers will demand extra output	**Seven reasons for protectionist measures** 1 Protect infant industries 2 Anti-dumping 3 Protect strategic industry 4 Protect sensitive industry (to protect jobs) 5 Retaliation 6 Deal with special microeconomic events 7 Burden sharing (make outcome fairer)
Seven problems with comparative advantage 1 There are transport costs 2 In real there are economies of scale 3 Structural change and unemployment 4 Prices may not be at PPP levels 5 Comparative advantage can change 6 Good reasons for protectionism 7 Many goods made in global value chains	**Four reasons protectionism harms growth** 1 Leads to inefficient use of resources 2 Leads to loss of income or welfare (DWL) 3 Harder to export and causes inflation (see below) 4 Moral hazard – less incentive for industry to be efficient
Seven factors affecting comparative advantage 1 Resource endowment 2 Wage costs and productivity 3 Ability to benefit from economies of scale 4 Research and Development 5 Changes in exchange rates 6 Trading blocs and protectionism 7 Non-price competitiveness	**Three reasons why protectionism increases unemployment** 1 Reduces growth 2 Causes inflation 3 Makes export industries less competitive – leads to structural change
Model 3 – PPF diagrams Draw PPF Show production choice of economy Draw consumption possibility line (given the terms of trade) Show country can consume outside its PPF	**Four reasons protectionism causes inflation** 1 Loss of competition 2 Loss of economies of scale 3 Rise in wage costs 4 Higher cost of some imports
Role of World Trade Organisation Promote trade (non-discrimination between members, national treatment principle) Regulate and police trade	**Five reasons why protectionism makes it harder to export** 1 Encourages retaliation and trade wars 2 Higher costs for imported inputs 3 Reduces international spending power 4 Higher exchange rate (fewer imports) 5 Adds competition to export markets

CHAPTER 3: BALANCE OF PAYMENTS

Student Activity 3.1

1. *Record of financial flows, in and out of Australia, arising from economic activity, over a period of time.*
2. *Credit entry = money flow into Australia. Debit entry = money flow out of Australia. There are credit entries for exports of goods, exports of services, inflows of primary income and inflows of secondary income. There are debit entries for imports of goods, imports of services, outflows of primary income and outflows of secondary income.*

3. *(a) Secondary income, Debit;*
   (b) Primary income, Debit;
   (c) Services, Credit;
   (d) Goods, Credit;
   (e) Goods, Debit;
   (f) Services, Debit;
   (g) Primary income, Credit;
   (h) Secondary income, Credit.
4.

Goods credits	273.8	
Goods debits	-267.2	
Balance on goods		+6.6
Service credits	57.3	
Service debits	70.8	
Balance on services		-13.5
Balance on goods and services		-6.9
Primary income credits	48.8	
Primary income debits	87.8	
Balance on primary income		-39.0
Secondary income credits	7.7	
Secondary income debits	9.9	
Balance on secondary income		-2.2
Balance on current account		-48.1

Student Activity 3.2

1. *See section 3.2. In your answer mention double entry bookkeeping, the floating dollar and the balancing item.*
2. *-$15b (they must add up to zero)*
3. *Separate sections of the accounts record different types and reasons for inflows and outflows of currency.*

Student Activity 3.3

1. *(a) March 2019;*
   (b) Highest deficit about $33b, lowest deficit was just above zero;
   (c) Both are reflected in movements of the current account balance.
2. *The current account balance moved from deficit to surplus, peaked in mid 2021 and then fell back towards a deficit.*

Student Activity 3.4

1. *(a) CAD widens, more imports, fewer exports, cyclical;*
   (b) CAD narrows, fewer imports, more exports, cyclical;
   (c) CAD widens, lower prices, inelastic demand, structural;
   (d) CAD narrows after a while when the price elasticity for exports and price elasticity for imports sum to more than 1, structural;
   (e) CAD narrows, exports become more competitive, structural;
   (f) CAD narrows, international competitiveness improves, structural;
   (g) CAD widens, lack of supply in export market, shock;
   (i) CAD widens, structural;
   (h) CAD probably unaffected, any affect would be structural.
2. *(a) Fall in net income balance, cyclical;*
   (b) Fall in net income balance, structural;
   (c) Fall in net income balance, structural;
   (d) Fall in net income balance, structural;
   (e) Rise in net income balance, structural.
3. *Deficit fell almost to zero, then widened again. Changes in level of profits and in interest rates. Number of foreign workers was cut during the pandemic.*
4. *Probably true – structural factors are more deep-rooted and take time to affect trade.*

Student Activity 3.5

1. *(a) $50b;*
   (b) Financial account;
   (c) $50b – same as the investment-savings gap;
   (d) -$50b;
   (e) Foreign investment can change interest, dividends and profits and increase exports.
2. *It has little bearing on the strength of the economy. A current account deficit merely reflects a capital and financial account surplus.*

Chapter 3 – Review Questions

1. A; 2. A; 3. B; 4. D; 5. D; 6. D; 7. D; 8. C; 9. D; 10. C

<table>
<tr><th colspan="2">SO YOU THINK YOU UNDERSTAND BALANCE OF PAYMENTS</th></tr>
<tr><td>Key words in definition of balance of payments
1 Set of accounts.
2 Financial flows between countries.
3 Economic activity between countries.
4 Over a period of time period.</td><td>Australia's balance of payments accounts
• Since 2019 there has been a current account surplus, after years of deficits.
• Primary incomes deficit continues
• A financial account deficit (since investment-savings gap closed)</td></tr>
<tr><td>Two main sides to accounts
1 Current Account
2 Capital and Financial Account</td><td rowspan="2">Three overall causes of fluctuations in the size of the current account deficit
1 Cyclical (change in economic activity)
2 Structural (non-income factors)
3 Special or shock factors (e.g. weather events)</td></tr>
<tr><td>Two broad types of financial flow recorded in current account
1 Trade
2 Incomes</td></tr>
<tr><td rowspan="2">Four sub-sections in current account
1 Goods
2 Services
3 Primary incomes
4 Secondary incomes</td><td>Reasons for the current account surplus
1 Investment – savings gap closed
2 Fall in inward foreign investment after end of mining investment boom
3 Reduced primary income outflows (lower interest rates, lower profits of multinationals in mining sector)
4 Slower growth in Australian economy.</td></tr>
<tr><td rowspan="2">Main broad type of financial flow recorded in capital and financial account
1 Foreign investment</td><td rowspan="2">Six links between financial account inflows (i.e. foreign investment) and flows in the current account
1 Primary income outflows
2 Capital goods imports
3 Technology transfer within multinationals
4 Investment = injection = growth
5 Investment = capacity = exports
6 Influence on exchange rate</td></tr>
<tr><td>Three sub-sections in capital and financial account
1 Capital Account
2 Financial Account
3 Errors and Omissions</td></tr>
<tr><td>Entries in balance of payments accounts
Inflows are recorded with plus sign and are referred to as credit entries.
Outflows are recorded with minus sign and are referred to as debit entries.</td><td>Identities
• Financial account balance = change in the international investment position (IIP)
• Financial account balance = net capital flow
• Net capital flow = investment-savings gap
• Financial account balance + current account account balance = zero.</td></tr>
<tr><td>In all accounts when:
Outflows > inflows, result is a deficit
Outflows < inflows result is a surplus
Outflows = inflows the account is in balance</td><td rowspan="2">Is current account surplus a good thing?
• Net exports is an injection into circular flow.
• Reduction in net liabilities (but funding debt wasn't a problem)
• Reduction in imports which may adversely affect (a) production and (b) living standards.
• Lower investment may harm capacity to produce and reduce productivity.</td></tr>
<tr><td>Reasons that the balance of payments accounts balance
1 Double entry – every transaction has two entries, one a credit, the other a debit.
2 For example, export credit will be matched with debit entry in 'other investment' in financial account.</td></tr>
</table>

CHAPTER 4: TERMS OF TRADE

Student Activity 4.1

1. *See section 4.1 number 1.*
2.

Year	Export price index	Import price index	Terms of trade	Description of change
1	85	100	85	-
2	90	90	100	Improvement
3	112.5	90	125	Improvement
4	95	85	111.8	Worsening
5	100	95.3	105	Worsening

3. *The ratio of export prices to import prices is 1:0.85. Average export prices are about 12% lower than average import prices.*
4. *(a) Correct;*
   (b) Incorrect;
   (c) Incorrect (it should be the quantity of imports that can be bought with a given volume of exports);
   (d) Incorrect (the actual value of the terms of trade depends on the base year);
   (e) Incorrect;
   (f) Incorrect (exports might be becoming expensive in overseas markets);
   (g) Correct;
   (h) Incorrect
5. *(a) Improvement;*
   (b) Improvement;
   (c) Improvement;
   (d) Worsening;
   (e) Worsening

Student Activity 4.2

1. *TWI rose from 100 to 175 or 75%.*
2. *TWI worsened (from about 100 to 75).*

Student Activity 4.3

1. *(a) There is a close correlation.*
   (b) Changes in commodity prices dominate changes in the terms of trade (70% of our exports are commodities). The exchange rate is also affected by the terms of trade but also by relative interest rates, the general performance of the economy and the global risk climate so there is some variation in the relationship.
2. *(a) Draw normal demand curve and inelastic supply curve. Shift demand curve to left. Show relatively big fall in price.*
   (b) Iron ore is one of Australia's biggest export products, so a change in price of iron would have a big weight in calculations of the export price index (and hence the terms of trade index)
3. *(a) Depreciation in exchange rate should increase the net export component of aggregate demand (AD). AD shifts to the right. Other things being equal price level increases.*
   (b) Inflation in Australia increases the price of exports (assuming no change in the exchange rate). This improves the terms of trade, but might over time widen the trade deficit
4. *Growth in China, India and other South East Asian economies, new transport and production technologies, excess supply of manufactured goods.*
5. *The pattern of Australia's trade, productivity rates in Australia and overseas, changes in level of demand and supply in specific markets, changes in the exchange rate.*

Student Activity 4.4

1. *(a)*

Year	Price of iron ore (per tonne)	Price of each TV	How many TVs can be bought with the money earned from exporting 100 tonnes of iron ore?	How much iron has to be exported to raise enough money to buy 6 TVs?
1	$120	$2000	6	100
2	$60	$2000	3	200

(b) *Terms of trade have worsened (fallen by 50%).*
(c) *Buying power (in terms of TVs) falls, or output has to double to maintain living standards.*

2. (a) *Because of a rise in the terms of trade.*
(b) *Import prices rose and the price of their exports fell.*

3. (a) *Rise in the global price for food and energy following reduction in supply from eastern Europe;*
(b) *Australians could buy more imports with a given volume of exports. More food and energy products exported and at higher prices. The Government collected more tax;*
(c) *Climate change and the need to decarbonise the economy, level of exports from Russia, global growth rates.*

Chapter 4 – Review Questions

1. C; 2. C; 3. B; 4. B; 5. B; 6. B; 7. D; 8. C; 9. B; 10. A

SO YOU THINK YOU UNDERSTAND TERMS OF TRADE	
Formula for calculation of terms of trade Export price index/Import price Index x 100	**Impact on real income** Affects buying power of incomes. National income = GDP adjusted for changes in TOT. Involves a transfer of income (or gains from trade) from one country to another.
Meaning of terms of trade Ratio of export and import prices Indicates buying power of a given level of exports or indicates level of exports needed to buy a given level of imports.	**Impact on GDP** Indirect impact on GDP due impact of TOT on level of incomes, profits and government revenue. Income change leads to change in consumption, investment and government spending. Change in exchange rate affects net exports.
Why TOT are more significant for open (trade intensive) economies The higher level of trade the bigger the impact on the level of real income. Closed economy = no trade = no TOT impact	
Not the same as the balance of trade TOT = export price / import price BOT = export value minus import value	**Impact on structural change** Leads to change in pattern of output and employment, e.g. commodity price rise led mining boom, fall in import prices lead to closures in car industry.
Terms to describe changes Rise = improvement Fall = worsening or deterioration	**Impact on inflation** Demand-pull – depends on AD and AS Cost-push – change in imported input prices feeds into production costs
Trends in Australia's terms of trade 2012–16: Worsening as commodity prices fell 2016–20: Recovery 2020–21: Fell during Covid recession 2022–24: Rose as food, fuel and energy commodities after Ukrainian invasion. Global recession will reduce commodity prices	**Impact on balance of trade** Impact on trade balance depends on reaction to change in prices (i.e. on price elasticity of demand for exports and imports)
Three main factors affecting TOT 1 Microeconomic changes in specific export and import markets 2 Macroeconomic changes e.g. in inflation 3 Exchange rate movements	**Showing impact using consumer and producer surplus models** Consumer surplus: Shift world price to show change in consumer surplus (e.g. imported manufactured goods) Producer surplus: Shift world price to show change in producer surplus (e.g. exported commodities)
Five factors affecting export and import prices 1 Commodity demand and supply 2 Growth rates in SE Asian economies 3 Productivity levels, technology and economic reform 4 Value of currencies 5 Change in buying habits of consumers	**Showing impact using production possibility frontier models** Draw PPF. Show output position after specialisation. Draw consumption possibility line outside PPF. Show level of consumption outside PPF.

CHAPTER 5: EXCHANGE RATES

Student Activity 5.1

1. *Value of a currency expressed in terms of one or more other currencies.*
2. (a) *Bilaterally (in terms of one other currency) or multilaterally (in terms of the average value of several currencies);*
(b) *$1.01c to 65c, 78 to 63 – close correlation but a little variation.*
3. (a) *AUD 22,222 (20,000/0.9);*
(b) *AUD 1 = USD 0.75;*
(c) *Appreciated;*
(d) *AUD 80;*
(e) *AUD 70.*
4. *Depreciation.*

5. *(a) True;*
   (b) False;
   (c) False.

Student Activity 5.2

1. *(a) Shift D to the right – increase in inwards portfolio foreign investment – exchange rate appreciates;*
   (b) Shift D to the left – exchange rate depreciates, (c) Vertical axis is 'exchange rate' (not price).
2.

Demand sources: CREDIT entries in the balance of payments accounts	**Supply sources:** DEBIT entries in the balance of payments accounts
Payment for exports of goods and services	Payment for imports of goods and services
Inflows of primary and secondary income	Outflows of primary and secondary income
Inflows of portfolio foreign investment	Outflows of portfolio foreign investment
Inflows of foreign direct investment	Outflows of foreign direct investment

3.

Policy measure	What they could do	Likely effect
Cash rate target	Fall	Outflow of foreign investment May harm domestic economy
Foreign currency reserves	Buy	Increases supply of AUD on foreign exchange market – may be inflationary
Domestic money supply	Print more	Increases supply of AUD on foreign exchange market – may be inflationary
Inflows of foreign investment	Toughen conditions	Reduces inflow of foreign investment – leads to bad supply-side effects
Jawbone / Talking about the currency	Talk it down	Changes climate in foreign exchange market – limited impact

4. *(a) Value of Australian dollar is affected by changes in values of other currencies;*
   (b) Policies of other Governments and Central Banks beyond RBA's control;
   (c) Path of Australian dollar erratic;
   (d) Commodity prices influence value of Australian Dollar, and commodity prices are relatively unstable;
   (e) limited stock of foreign currency reserves.

Student Activity 5.3

1. *Commodity prices and the terms of trade, relative interest rates, the risk environment and performance of the economy.*
2. *Currencies can move by significant amounts in the short run as a result of random decision-making. It is not always possible to explain, let alone predict, exchange rate movements.*
3. *If products can be traded between two countries, over time prices will be set at the same level. People will buy where the product is relatively cheap, increasing demand and causing the price to rise. The high value of the Australian Dollar during the mining investment boom encouraged people to buy imported goods, reducing demand for Australian made goods and causing their price to fall.*
4.

	Event	Impact on the Australian dollar
(a)	Fall in the rate of growth in China	Fall – Weaker commodity prices
(b)	50% fall in the price of oil	Fall – Rise in risk environment
(c)	Fall in Australia's terms of trade	Fall – Weaker commodity prices
(d)	Stronger growth in the US economy	Fall – Potential rise in US interest rates
(e)	Expectations of a rise in US interest rates	Fall – Change in interest rate differential
(f)	Economists suggest next cash rate move in Australia will be downward	Fall – Change in interest rate differential
(g)	Economic stimulus measures put in place by European Central Bank	Rise – More growth, lower value of Euro
(h)	Fear that Greece will leave the Euro Zone	Rise – Uncertainty about value of Euro

5. *(a) A rise in commodity prices (and the terms of trade) normally leads to a rise in the balance of trade, so, other things being equal, demand for the currency will rise relative to supply. Mining companies can earn higher profits so inwards foreign investment may increase.*

Speculators expect the currency to follow movements in certain commodity prices (e.g. copper and iron ore) so they buy or sell accordingly.

(b) There appears to be an inverse relationship – as commodity prices rise the value of the AUD falls.

(c) Changes in relative interest rates, changes in the risk environment, changes in the performance of the Australian economy.

Student Activity 5.4

1.

	Sector	Positive impact	Negative impact
(a)	Mining sector	Cheaper import prices for capital goods	Loss of profits when US earnings converted to AUD
(b)	Rural sector	Cheaper import prices for capital goods	Loss of competitiveness for products priced in AUD
(c)	Australian volume manufacturing	Cheaper components and capital goods	Priced out of international markets
(d)	Consumers	Cheaper consumer goods	May have lost their job when employer became uncompetitive
(e)	Tourism	Cheaper fuel and capital goods	Priced out of the market

2. Your choice of business may be able to (a) earn higher profit margins on exports, (b) switch to sourcing more locally produced components, shorten their overseas supply chains, (c) compete more successfully against imported products.

3. (a) Agree – USD earnings convert to more AUD, products more competitive if priced in AUD. Imported machinery will be more expensive;

(b) Agree – exchange rate closer to PPP rate than for a number of years;

(c) Disagree – car makers have stopped producing cars in Australia because of high wage costs, low volumes and a high dollar. Factories can't easily be reopened;

(d) Agree – cost of imports will rise;

(e) Agree – cost of imported capital goods will rise;

(f) Agree – any source of foreign currency becomes worth more in AUD terms;

(g) Agree – they will be more price competitive, so as long as they are non-price competitive as well (quality, taste, delivery, marketing) they should do better;

(h) Agree – any source of foreign currency becomes worth more in AUD terms;

(i) Agree – service providers should attract more foreign customers as cost falls to overseas' buyers.

4. (a) Higher imported cost-push inflation;

(b) High inflation due to lower foreign competition;

(c) Higher demand-pull inflation when net exports rise;

(d) Net exports should rise if Marshall-Lerner condition satisfied, assuming there is spare production capacity – aggregate demand should, therefore, rise;

(e) Growth will rise if AD rises and there is spare supply capacity;

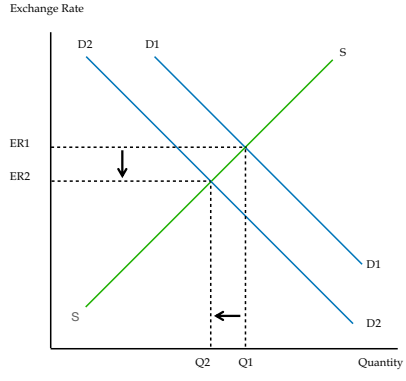
(f) Structural unemployment may fall of more sectors of the economy are competitive;

(g) Demand-deficiency or cyclical unemployment will fall if growth increases.

5. Draw AD/AS diagram with a shift in AD to the right and an upward movement in AS.

Chapter 5 – Review Questions

1. A; 2. D; 3. B; 4. C; 5. C; 6. C; 7. B; 8. C; 9. D; 10. C

SO YOU THINK YOU UNDERSTAND EXCHANGE RATES	
Definition of exchange rate Value of currency expressed in terms of one or more other currencies.	**Options to reduce value of AUD** 1 Direct intervention (sell AUD, buy Forex) 2 Reduce Australian cash rate 3 Talk about need for a lower dollar 4 Limit inflows of foreign investment
Ways of measuring exchange rate Bilaterally – one other currency Multilateral – several other currencies	**Impact of lower exchange rate on sectors** **Mining** – More expensive equipment, rise in profits; **Rural sector** – more expensive equipment, more competitive exports; **Large scale manufacturing** – More expensive machinery, more competitive exports; **Niche, high-end manufacturing** – more expensive capital, more competitive products; **Services** (tourism, education) – more expensive imports, more competitive holidays; **Retail services** – fewer on-line bargains; **Households** – higher cost of living.
Ways of describing bilateral rates 1 Domestic (USD 1 = AUD 1.25) 2 International (AUD 1 = USD 0.80)	
Two points about calculation of TWI 1 Trade-weighted average of about 20 currencies covering 90% of trade. 2 Compared to value in base year	
Terminology Upward float = Appreciation Downward float = Depreciation Rise in 'fixed' rate = Revaluation Fall in 'fixed' rate = Devaluation	**Impact of lower exchange rate on BOGS** 1 More competitive exports, more expensive imports 2 Overall impact depends on combined price elasticity of demand for exports and imports 3 J-curve effect while elasticity increases **On foreign debt** 1 Foreign debt rises **On growth** 1 Boosts AD if net exports increase 2 May impact on aggregate supply if capital goods cost more **On employment** 1 Positive if growth rises 2 Structural change **On inflation** 1 Possibility of more demand-pull 2 Possibility of more cost-push **On income distribution** 1 Structural change 2 Depends on import content of household spending.
Diagram of floating rate determination  	
Demand for AUD = credit entries in BOP 1 Export earnings 2 Income inflows 3 Foreign investment inflows	
Supply of AUD = debit entries in BOP 1 Import payments 2 Income outflows 3 Foreign investment outflows	
Factors affecting the value of the AUD **Long term:** 1 Purchasing Power Parity **Medium Term:** 1 Commodity prices and the Terms of Trade, 2 Relative interest rates, 3 Risk environment, 4 Competitive advantage (e.g. productivity) **Short-term:** 1 Speculation, random walk	**Performance of AUD in last 10 years** 1 Follows commodity prices and terms of trade. 2 Bilateral rate depends on changes in value of US Dollar. 3 US Dollar seen as 'safe haven' currency.

CHAPTER 6: FOREIGN INVESTMENT

Student Activity 6.1

1. *A little below $850b (750b + 100b). Foreign liabilities rise when Australia has a current account deficit.*
2. *(a) $500b;*
   (b) $4,000b;
   (c) $3000b;
   (d) 100%
3. *(a) Borrowing and sale of assets;*
   (b) Foreign Debt and foreign equity;
   (c) A flow of finance over time;
   (d) Financial Account.
4. *Long term debt grew in significance as short-term debt and equity declined.*
5. *Harder to borrow money from overseas banks, no commitment to pay dividends to shareholders if profits are low.*

6. *(a) Through buying foreign equity and borrowing.*
   (b) The stock of liabilities rises when there is a net inflow of foreign investment.

Student Activity 6.2

1. *To finance our investment-savings gap or because aggregate expenditure was greater than GDP.*
2. *Because we have built up a stock of foreign liabilities that generate an outflow of primary incomes in the form of interest, dividends and profits. Interest payments can't be spent another things.*
3. *Resource rich, stable institutions, low sovereign risk.*
4. *(a) Equal;*
   (b) Equal but opposite value;
   (c) Equal;
   (d) Equal;
   (e) Equal;
   (f) Net capital flows adds to level foreign liabilities.

Student Activity 6.3

1. *Adds finance (we don't have to save as much); brings in technologies and skills; generates exports.*
2. *Creates economic activity, but some key jobs may go to overseas workers.*
3. *Generates profits and output which are taxed, MNC's may avoid tax payments by transfer pricing and other policies.*
4. *Equity doesn't have to be repaid. More likely that there will be technology and knowledge transfers.*
5. *See section 6.8.*
6. *Other things being equal the country of origin should not be a factor. There could be concern about investment from countries with strong sovereign wealth funds or higher levels of government involvement in their economy. There could be security concerns (e.g. some Chinese communications technology) or investors might have different ethical standards (e.g Galilee Basin coal mine).*

Student Activity 6.4

1. *They might have to borrow more to meet interest payments. Debt grows as a share of GDP over time in such circumstances. More an issue for developing countries such as Sri Lanka with large debts with China.*
2. *See section 6.9 number 2.*
3. *See section 6.9 number 3.*

Chapter 6 – Review Questions

1. B; 2. D; 3. C; 4. C; 5. B; 6. C; 7. B; 8. A; 9. B; 10. C

SO YOU THINK YOU UNDERSTAND FOREIGN INVESTMENT	
Two reasons why Australia needs foreign investment inflows • Close investment-savings gap • Close an expenditure-income gap	**Four reasons why foreign debt is not a cause of concern for Australia.** 1 Debt ratios relatively low 2 Mostly held by the private sector (consenting adults) 3 Legacy created for future generations 4 CAD self-corrects over time
Two main forms of foreign investment 1 Lending/Borrowing (changing debt levels) 2 Purchase/Sales of assets (changing net equity)	**Four reasons why foreign debt may become a cause of concern for Australia.** 1 Vulnerability in next financial crisis 2 Less scope for next fiscal stimulus 3 Costs rise when interest rates rise 4 Burden of debt falls on future generations
Definition of foreign liabilities Value of Australia's foreign obligations to the rest of the world.	**Top three countries of origin of foreign direct investment finance** 1 US; 2 UK; 3 Belgium
Two main forms of foreign liabilities 1 Foreign debt 2 Foreign equity	**Three industries where foreign investment has an important impact** 1 Mining 2 Real estate 3 Manufacturing
Difference between gross and net foreign investment Gross = Total inflows Net = Total inflows minus total outflows	**Six advantages to Australia of FDI** 1 Closes investment – savings gap 2 Technology and knowledge transfer 3 Injection into circular flow – multiplier effect 4 Helps create capacity in areas where there is a comparative advantage – promotes exports 5 Creates revenue for government 6 Raises productivity
Difference between portfolio and direct foreign investment Portfolio = Less than 10% ownership Direct = More than 10% ownership (for control and influence of business)	
Three other types of foreign investment recorded in financial account of balance of payments: 1 Other 2 Financial derivatives 3 Reserve Assets	
Facts about Australia's foreign liabilities 1 Total of 45% of GDP (≅ AUD 1 trillion) 2 Mostly long term debt 3 Mostly involves the private sector	**Four problems associated with FDI** 1 Loss of ownership 2 Loss of economic sovereignty 3 Outflow of primary incomes (income, dividends and profits) 4 Bad behaviour by MNCs (tax avoidance, exploiting monopoly power, harm to local firms, export of jobs)
Five indicators of size and burden of foreign debt 1 Debt servicing ratio (exports / GDP) 2 Interest / GDP 3 Net foreign debt / GDP 4 Public debt / GDP 5 International credit rating 6 Long-term (10 year) interest rates	**Four links to current account of the balance of payments** 1 Investment may create exports 2 May involve capital equipment imports 3 Hits exports if value of AUD rises 4 Outflow of primary incomes

CHAPTER 7 – MACROECONOMIC PERFORMANCE AND BUSINESS CYCLES

Student Activity 7.1

1. *See section 7.1 number 1.*
2. *There are upper and lower turning points. See section 7.1 numbers 4 and 6.*
3. *(a) (i) Capacity of the economy,*
   (ii) GDP or the level of output;
   (iii) Difference between capacity and actual output.
   (b) (i) Recession or slump; (ii) Downturn; (iii) Boom; (iv) Recovery.

Student Activity 7.2

1. *Leading indicator = business investment plans; Lagging indicator = GDP data (amongst others)*
2. *Partial indicators may be distorted by special factors or circumstances. Always better to check a range of indicators. General indicators are often lagging indicators.*
3. *Growth is low, economy could be in a recession.*

Student Activity 7.3

1. *Activity in informal markets, non-marketed output, volunteering.*
2. *Income is not distributed across the economy, rise in activity may not contribute to welfare or may cause negative externalities.*
3. *Going for growth may lead to inflation, may involve foreign investment from questionable companies, may lead to negative externalities such as environmental issues.*

Student Activity 7.4

1. *See section 7.4 number 4.*
2. *See section 7.4 number 5.*
3. *If growth in broadly distributed and inclusive more likely to be beneficial.*

Student Activity 7.5

1. *Compared to trend growth, growth has been relatively low. It was hit by the pandemic but the recovery was strong. Growth affected by changes in level of investment, productivity performance, growth overseas and shocks such as climate change and the pandemic.*
2. *See figure 7.5.*

Student Activity 7.6

1. (a) *Generally good – remember the target allows some flexibility. Inflation was low when growth was below trend and technology and globalisation were reducing costs;*
   (b) *Wage rises were similar to price rises except in 2021–22 when food and energy costs rose. Changes in the terms of trade can affect living standards as well as wages and prices;*
   (c) *The target is a compromise between the RBA having to be over restrictive and not restrictive enough.*

Student Activity 7.7

1. (a) *If NAIRU was about 5%, the government has managed the economy well. During the pandemic unemployment rose about NAIRU. But remember that the overall rate of unemployment (the underlying rate) is higher than the official rate;*
   (b) *See section 7.5 number 5;*
   (c) *Participation rates, employment to population rates, level of underemployment.*

Student Activity 7.8

1. *Gini-coefficient has stayed reasonably stable around 0.32 to 0.33. Marginal movement to greater inequality.*
2. *Not everybody is getting a fair go. Disadvantaged groups may look to different politicians or other means such as direct action to improve their position.*

Student Activity 7.9

1. *In short-run there could be structural change but unless the transition happens in the long-run all areas of macroeconomic performance will suffer.*

Chapter 7 – Review Questions

1. C; 2. A; 3. C; 4. A; 5. C; 6. C; 7. C; 8. B; 9. B; 10. B

SO YOU THINK YOU UNDERSTAND MACROECONOMIC PERFORMANCE AND THE BUSINESS CYCLE	
Key words in definition of business cycle 1 Short-run growth path, above and below trend line. 2 Sequence of stages. **Stages in a typical business cycle** Boom – Downturn, Slump (Recession), Upswing (Recovery)	**Six policy objectives** 1 Steady sustained economic growth 2 Price stability, or low inflation 3 Full employment or NAIRU 4 Equitable income distribution 5 Environmental sustainability 6 Efficient allocation of resources
Four features of the business cycle 1 Cumulative processes (e.g. multiplier, accelerator, waves of optimism) 2 Upper and lower turning points 3 Shocks (autonomous changes in AD) 4 Automatic and discretionary stabilisation (e.g. budget balance)	**Indicators of a boom** 1 Aggregate demand high 2 Cyclical unemployment close to zero 3 Output gap closed 4 Rise in demand-pull inflation 5 Some groups do better than others 6 Cranes on city skyline
Four causes of upper turning points 1 Economy operating close to full potential 2 Lack of skilled labour 3 Built-in stabilisers (e.g. budgetary) 4 Discretionary policy measures	**Indicators of a downturn** 1 Aggregate demand falling 2 Cyclical unemployment starts to increase 3 Output gap increases 4 Demand-pull inflation lower 5 Uneven decline in output and employment 6 Lower footfall in shopping centres

SO YOU THINK YOU UNDERSTAND MACROECONOMIC PERFORMANCE AND THE BUSINESS CYCLE	
Three causes of lower turning points 1 Automatic stabilisers (e.g. lower tax, higher welfare and charity) 2 Discretionary policy measures (e.g. lower cash rates) 3 Survival (autonomous) consumption	**Indicators of a slump or recession** 1 Recession = two successful quarters of negative growth 2 Relatively big output gap 3 Relatively high cyclical unemployment 4 Relatively low demand-pull inflation 5 Uneven impact on sectors of economy 6 Lower investment and productivity
Three causes of lower turning points 1 Automatic stabilisers (e.g. welfare) 2 Discretionary policy measures (e.g. lower cash rates) 3 Survival (basic) consumption	**Indicators of recovery** 1 Aggregate demand rising 2 Cyclical unemployment starts to decrease 3 Output gap decreases 4 Demand-pull inflation may start to increase 5 Uneven growth in output and employment 6 Increase in energy use
Cumulative processes 1 Multiplier process (upwards and downwards) 2 Accelerator effect on investment 3 Waves of optimism or pessimism	**Four advantages of growth** 1 Rise in material living standards 2 More products, wider choice 3 Keeping pace with other countries 4 Creates employment
Types of indicators 1 Lagging (backward looking) e.g. GDP 2 Coincident (current) e.g. retail sales 3 Leading (forward looking) e.g. plans to invest 4 General (economy as a whole) e.g. CPI 5 Partial e.g. car sales, construction	**Four problems with growth** 1 May spill-over into demand-pull inflation 2 May cause environmental damage 3 May cause structural change and unemployment 4 May cause income inequalities
Policy response 1 Fiscal – discretionary changes 2 Fiscal – automatic changes 3 Monetary – cash rate target moves above and below neutral rate	**Growth performance** Trend growth rate has been falling (with lower productivity and weak wages growth) Recession in 2020 due to Covid restrictions
Advantages of an equitable income distribution 1 Fairness or distributive justice 2 Morality 3 More harmonious society	**Four advantages of price stability** 1 Promotes international competitiveness 2 Helps consumer confidence 3 Avoids arbitrary income redistribution 4 Avoids inefficiencies (e.g. menu costs)
Issues with too much income distribution 1 Welfare dependency 2 Moral hazard 3 Lack of incentive	**Three issues with price stability** 1 Potential for deflation (leading to rising debt, falling profit, postponement of spending) 2 Opportunity cost of higher unemployment 3 Allows fall in real value of debt in long term
Income distribution performance Overall – Gini-coefficient about 0.35 but may be widening in recovery.	**Inflation performance** 2015–20 – a little below 2% to 3% target In 2022–23 jump in cost-push inflation (food and energy supplies hit by war in Ukraine)
Objectives in conflict (with no shift in AS) 1 Growth and inflation 2 Inflation and unemployment 3 Growth and environmental sustainability **Complementary objectives (stable AS)** 1 Growth and full employment 2 Efficient use of resources and growth 3 Price stability and growth (in LR)	**Costs of unemployment** 1 Economic e.g. opportunity cost of lost GDP, scarring, skills atrophy 2 Government e.g. support payments, training 3 Social e.g. crime, health 4 Individual e.g. boredom of involuntary leisure, loss of self-esteem
Five problems of economic management 1 Need to prioritise conflicting objectives 2 Time lags 3 Political considerations 4 Information gaps (e.g. about output gap) 5 Shocks or unforeseen changes	**Costs of full employment** 1 Moral hazard (jobs guarantee reduces incentive) 2 May cause wage-push inflation 3 May harm structural change
Two main types of time lag and examples 1 Inside lags (recognition lag, decision lag, implementation lag) 2 Outside lag (effect or impact lag)	**Unemployment performance** 2022–23 – full employment – below NAIRU or natural rate during post-Covid recovery.
Environmental sustainability objective 1 Net zero carbon emissions by 2050 2 26% to 28% reduction of carbon emissions compared to 2005 levels by 2030	**Environmental sustainability issues** 1 Fossil fuel exports 2 More investment in renewables needed 3 Mitigation of damage through weather events

CHAPTER 8: AGGREGATE EXPENDITURE

Student Activity 8.1

1. *C = Consumption; Ip = Planned investment; G = Government spending; X = exports; M = Imports; AE = Aggregate expenditure.*
2. *(a) Consumption (if made in Australia);*
   (b) Planned investment (if made in Australia);
   (c) Government spending (if made in Australia).
   (d) Export.
   (e) Import.
3. *(C + Ip + G + X – M)*
4. *When income = expenditure or when the expenditure function crosses the 45 degree line.*
5. *All points where income = expenditure.*
6. *(a) Equilibrium income increases;*
   (b) Only when a vertical line at the full employment level of income is added;
   (c) It doesn't indicate changes in the price level. A reducing output gap may suggest the possibility of demand-pull inflation.
7. *See figure 8.2. Shift AE line down. Income or real GDP falls.*
8. *See figure 8.2. Shift AE line up. Income or real GDP rises.*
9.

		Impact on aggregate expenditure	Impact of economic activity
(a)	A fall in mining investment	Falls	Falls
(b)	A rise in the level of household saving	Falls	Falls
(c)	A fall in the rate of economic growth in China	Falls	Falls
(d)	An increase in government spending on infrastructure	Rises	Rises
(e)	A rise in the level of consumer confidence	Rises	Rises
(f)	A fall in the exchange rate value of the Australian Dollar	Rises	Rises

Student Activity 8.2

1. *See figure 8.3.*
2. *(a) Saving + Consumption = Income. As consumption rises saving falls;*
   (b) People save to pay for known transactions, for unknown expenses as a precaution and for speculative reasons or income generation.
   (c) Essentials are independent and luxuries are more dependent.
3. *(a) Consumption rises in absolute terms as wealth rises (but may fall as a proportion of wealth).*
   (b) Consumption fell during both crises.
4. *(a) Consumption rises when consumer sentiment or confidence (or 'vibe') increases;*
   (b) 2008, 2020 and 2022;
   (c) An increase in uncertainty, tension or bad news.

Student Activity 8.3

1.

	Event	Impact on investment	How would this be shown on the investment demand model?
(a)	An economic recovery	Rise	ID shifts to the right
(b)	A rise in interest rates	Fall	Movement along the ID in a downward direction
(c)	A fall in forecast profit levels	Fall	ID shifts to the left
(d)	A fall in the cost of borrowing money	Rise	ID shifts to the right
(e)	New technology becomes available	Rise	ID shifts tot he right
(f)	Introduction of regulations to address climate control	Fall (probably)	ID shifts to the left (probably)

2. *Rise in mineral and energy commodities; faster global growth, new deposits discovered, reduced regulation of sector or reduction in resource rent taxes.*
3. *Reduce interest rates, relax regulations, reduce tax, fund research and skills training, improvement transport and communications infrastructure.*
4. *Draw standard microeconomic demanding supply diagram. Shift demand up and to the right. Quantity of investment in new homes rises (as well as their price).*

5. *(a) About 18% of GDP;*
   (b) capacity had been created, emphasis or production and exporting rather than further investment;
   (c) Difficult to show on investment demand diagram (still high returns, lower cost of finance) – perhaps draw a PPF diagram for the mining and energy sector showing an output gap for the sector diagram showing?

Student Activity 8.4

1. *(a) Payments as a % of GDP rise from 26.8% to 27.1%;*
   (b) Underlying cash balance rises from deficit of -$32b to -$49b;
   (c) Social security and welfare, social justice or equitable income distribution;
   (d) About $170b – these are public or merit goods.

Student Activity 8.5

1. *About $17,500m.*
2. *Growth rates in China and Australia; Exchange Rate; Increased capacity in mining sector.*
3. *As economic activity in Australia increases more goods and services are imported.*
4. *Emphasis on commodity exports and prices of commodities are relatively unstable.*

Student Activity 8.6

1.

	Marginal propensity to consume	Marginal propensity for leakages	Value of multiplier coefficient
(a)	0.5	0.5	2
(b)	0.6	0.4	2.5
(c)	0.7	0.3	3.33
(d)	0.8	0.2	5
(e)	0.9	0.1	10

2.

	Change in component of aggregate expenditure ($m)	Final change in income ($m)	Value of multiplier coefficient
(a)	50	200	4
(b)	200	500	2.5
(c)	25	75	3
(d)	10	20	2
(e)	30	45	1.5

3. *(a) 1.5;*
   (b) $32b;
   (c) 4;
   (d) 1.67.
4.

	Change in income ($m)	Leads to change in consumption of… ($m)	Leads to change in savings of… ($m)
1st Round	64	0.75 x 64 = 48	0.25 x 64 = 16
2nd Round	48	0.75 x 48 = 36	0.25 x 48 = 12
3rd Round	36	0.75 x 36 = 27	0.25 x 36 = 9
4th Round	27	0.75 x 27 = 20.25	0.25 x 27 = 6.75
5th Round	20.25	0.75 x 20.25 = 15.19	0.25 x 20.25 = 5.06
6th Round	15.19	0.75 x 15.19 = 11.39	0.25 x 15.19 = 3.40
Final total after infinite rounds	64 x 4 = 256	256 – 6 = 192	64

5. *(a) Rise in income = 300, rise in spending = 150, multiplier = 2;*
   (b) Rise in income 300, rise in spending 200, multiplier = 1.5.
6. *(a) Bigger;*
   (b) Bigger;
   (c) 6 x 1.82 = $10.91b;
   (d) Fall;
   (e) $12b (2.5 x 4.8)

Chapter 8 – Review Questions

1. A; 2. B; 3. D; 4. B; 5. A; 6. A; 7. B; 8. C; 9. B; 10. B

SO YOU THINK YOU UNDERSTAND AGGREGATE EXPENDITURE	
Difference between Aggregate Expenditure and Aggregate Demand AE = spending at different incomes AD = spending at different price levels **Four components of AE** 1 Consumption (C) 2 Planned investment (Ip) 3 Government expenditure (G or (G1 + G2)) 4 Net exports (Exports – Imports)	**Saving** Income not spent on consumption **Factors that affect saving** 1 Confidence, uncertainty 2 Need to buy things later on 3 Real rate of interest 4 Level of expected inflation **Importance of saving** 1 Banks recycle savings as loans 2 Savings earn income or capital gains
Consumption Definition: Spending by households on goods and services over a period of time. Consumption as proportion of AE = between 55% and 60% **Types** 1 Non-durable, durable 2 Goods, services 3 Autonomous (survival), discretionary	**Planned private investment** Purchase of capital goods. Ip as proportion of AE about 15% **Types** 1 Buildings (construction) 2 Equipment (machinery) 3 Transport 4 Stocks (inventories)
Factors affecting consumption 1 Level of disposable income 2 Interest rates 3 Inflation (current and expected) 4 Wealth and debt 5 Expectations, level of consumer confidence	**Factors affecting planned investment** 1 Real interest rates 2 Rate of return (level of profitability) 3 Business expectations and confidence 4 Government policy (e.g. regulations, competition policy)
Consumption function 1 Consumption at different levels of income 2 Autonomous consumption unrelated to income 3 Discretionary consumption rises with income 4 Gradient of C function = marginal propensity to consume (MPC) MPC = extra consumption/extra income 5 Formula: C = a + bY (where a = autonomous consumption and b = MPC)	**Investment demand model** Model compares rate of return with rate of interest. **Features of investment demand model** 1 Rate of interest set externally 2 Rates of return fall as level of investment increases (more competition in market) 3 Better business conditions shifts ID to the right and level of investment increases
Government spending Spending by Commonwealth, State and local governments G as proportion of AE: About 25% **Types** 1 Structural government spending (e.g. on public and merit goods) 2 Cyclical government spending (e.g. on welfare and social security) In model assumed to be independent of income	**Pressures on government spending** Ageing of population Support in cost of living squeeze Climate change impact and mitigation
Net exports Definition: Value of exports less value of imports X – M. Surplus of about +1% GDP **Types of traded goods and services** 1 Commodities (rural, minerals, energy) 2 Manufactured goods (STMs and ETMs) 3 Services	**Factors affecting the level of net exports** 1 Structural factors (e.g. productivity, competitive advantage, exchange rate, commodity prices) 2 Cyclical factors (relative growth rates) 3 Shocks or special factors (e.g. drought, impact of pandemic)
Five features of AE model 1 AE slopes up to right 2 Gradient = MPC (other components assumed to be independent of income) 3 AE shifts when one or more of C, Ip, G or X – M change 4 Ex = Y line (45 degree line) shows all potential equilibrium points 5 Equilibrium where AE = Y	**Multiplier process** Multiplier = final change in income divided by autonomous expenditure change that caused it. **Formulae** **Simple 3 sector multiplier** K = 1 / 1 – MPC or K = 1 / MPS **Complex 5 sector multiplier** K = 1 / MPW or K = 1 / (MPS + MPM + MPT)

CHAPTER 9: AGGREGATE DEMAND AND AGGREGATE SUPPLY

Student Activity 9.1

1. *(a) Micro = 1 per market (but lots of markets), macro = 1 per economy;*
   (b) Micro = price of product, macro = price level;
   (c) Micro = quantity demanded, macro = real GDP;
   (d) Micro = where D = S, macro = where AD = AS.

2. *C + Ip + G + X – M*
3. *(a) Nothing, there is a movement along;*
   (b) shift to the left;
   (c) nothing – movement along;
   (d) shift to left;
   (e) nothing – movement along;
   (f) shift to the right;
   (g) nothing – movement along;
   (h) shift to the left.
4. *The interest rate effect, the real balance and wealth effect and the international competitiveness effect. The slope of the AD line reflects the degree to which aggregate demand changes as a result of these effects.*

Student Activity 9.2

1. *Short-run aggregate supply is the total value of goods and services produced in an economy at a given price level over a given period of time.*
2. *(a) Rise in production costs;*
   (b) Fall in production costs;
   (c) Change in the price level.
3. *The position of LRAS is determined by the capacity of the economy to produce goods and services, not the price level of the goods and services. It is positioned at the level of real GDP where resources are fully employed.*
4. *Shift left caused by reduction in capacity e.g. drought and loss of skilled workers from labour force; shift right caused by increase in capacity e.g. rise in planned investment and rise in infrastructure spending by the government*

Student Activity 9.3

1. *See figure 9.3.*
2. *The fall in AD causes an output gap. There are spare resources in the economy. The price of these resources falls, e.g. real wages fall, and causes a downward shift in the SRAS.*
3. *A demand-side approach aims to close an output gap by stimulating AD. A supply-side approach aims to increase real GDP by increasing efficiency and reducing the costs of doing business.*

Student Activity 9.4

1.

	Demand-side shock	Direction of shift in AD (left or right)	Impact on growth	Impact on unemployment	Impact on inflation
(a)	Rise in government spending	Right	Up	Down	Up
(b)	Fall in exports to China	Left	Down	Up	Down
(c)	Rise in household saving	Right	Up	Down	Up
(d)	Rise in interest rates	Left	Down	Up	Down
(e)	Rise in business expectations	Right	Up	Down	Up

2.

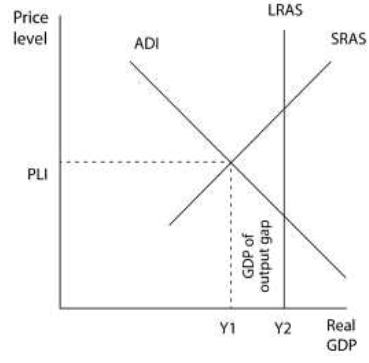
	Supply-side shock	Direction of shift in SRAS and/or LRAS	Impact on growth	Impact on unemployment	Impact on inflation
(a)	Increase in labour force	LRAS to the right	Up	Unknown	Down
(b)	Fall in energy costs	SRAS down or left	Up	Down	Down
(c)	Rise in unit wage costs	SRAS up or right	Down	Up	Up
(d)	Prolonged drought	LRAS to the left	Down	Unknown	Up
(e)	Rise in investment	LRAS to the right SRAS down or left	Up	Unknown	Down

Student Activity 9.5

1. *Shift AD to the right. Shift SRAS up and to the right, shift LRAS to the right.*
2. *Shift AD to the right. Shift SRAS down and to the left. Shift LRAS to the right.*
3. *Show size of the output gap. Or add an inverted 'unemployment function' at the bottom of the AD/AS diagram, showing unemployment falling as real GDP rises.*

Chapter 9 – Review Questions

1. C; 2. A; 3. C; 4. C; 5. C; 6. D; 7. A; 8. C; 9. C; 10. A

SO YOU THINK YOU UNDERSTAND AGGREGATE DEMAND AND AGGREGATE SUPPLY	
Difference between aggregate demand and aggregate expenditure AD is total spending at different price levels AEx is total spending at different income levels	**Short run equilibrium** When AD = SRAS There can be an output gap **Long run equilibrium** When AD = SRAS = LRAS Economy adjust to eliminate output gap
Four components of aggregate demand 1 Consumption (C) 2 Planned investment (Ip) 3 Government Spending (G) 4 Net exports (X – M)	**Why AD slopes down to right** 1 Interest rate effect 2 Real balance or wealth effect 3 International competitiveness effect
Differences between aggregate demand and aggregate expenditure AD is toal spending at different price levels AEx is total spending at different income levels	**Short run equilibrium** When AD = SRAS There can be an output gap **Long run equilibrium** When AD – SRAS = LRAS Economy adjust to eliminate output gap
Aggregate supply Total value of goods and services produced in an economy over a given time period. **Short run aggregate supply** rise with real GDP **Long run aggregate supply** determined by capacity of the economy (independent of real GDP)	**Short-run equilibrium** 
Shifts in short run aggregate supply Up – rise in costs of production Down – fall in costs of production **Shifts in long-run aggregate supply** Right – increase in capacity Left – decrease in capacity **Shifts in aggregate demand** Left = fall in level of C + Ip + G + X – M Right = rise in level of C + Ip + G + X – M	**Output gap** Difference between real GDP at short-run equilibrium and real GDP at long run equilibrium. **Economic cycle** Boom = little or no output gap Downturn = increase in size of output gap Slump = larger output gap Recovery = decrease in size of output gap
Model and the macroeconomic objectives Inflation – equilibrium at higher price level on vertical axis Growth – equilibrium further to right on horizontal axis Unemployment – indicated by size of GDP or output gap	**Link to Phillips Curve** Phillips Curve shows relationship between unemployment and inflation. Phillips curve is a reflection of the short-run aggregate supply curve.

CHAPTER 10: FISCAL POLICY

Student Activity 10.1

1. *Fiscal Policy involves changes in the level of government spending and taxation to directly and indirectly manage the level of aggregate demand in order to achieve the government's macroeconomic objectives.*
2. *Direct impact on government spending (G); Indirect effects on C, Ip and X-M.*
3. *(a) Sales of assets (e.g. privatisation receipts) and earnings of special funds;*
   (b) When the money is received and paid (cash flow) and when spending projects are planned and delivered (accrual)
4.

	Government payments (Spending)	Government receipts (Revenue)	Assets sales and fund earnings	Headline balance	Underlying balance	Surplus, balanced or deficit?
Year 1	$411b	$390b	$5b	$16b	$21b	Deficit
Year 2	$425b	$403b	$7b	$15b	$22b	Deficit
Year 3	$440b	$408b	$3b	$29b	$32b	Deficit

5. *Direct taxes on income and profits. Indirect taxes on spending (e.g. GST).*
6. *Current on day to day expenses (e.g. wages of public servants), capital on infrastructure and machinery, transfers on payments to households.*
7. *See figures 10.1 and 10.2*
8. *(a) All but 2018-19;*
   (b) Spending on control of the pandemic, slowdown in the economy;
   (c) Biggest deficit – September 2020, biggest surplus – June 2019;
   (d) Borrowing, increasing debt.

Student Activity 10.2

1. *Automatically dampens the economic cycle.*
2. *The term 'budget stance' refers to the intended impact of fiscal policy on the level of economic activity. The budget stance, therefore, refers to changes in the structural budget balance. It is not the same as the overall budget balance which includes cyclical effects.*
3. *Over the life of the cycle there will be no change in the level of government debt because the cyclical balance will add to zero over the cycle.*
4. *(a) 2023–24;*
   (b) (i) 2021–22, (ii) 2023–24.
5. *(a) Impact of climate change, global recession, cost-push inflation due to food and fuel shortages;*
   (b) Structural changes in government spending and taxation come from deliberate policy decisions made by the government for changes to allocative, regulatory or redistributive government spending and taxation. A succession of budget deficits have increased government debt;
   (c) Spending on heath, education, infrastructure, research, climate change mitigation amongst others;
   (d) Economic recovery, tax increases, control of government spending;
   (e) A political comment referring to inclusivity and material and non-material well-being. All spending is important – if not why is it being spent?

Student Activity 10.3

1. *Expansionary stance. Draw AE model showing impact of a rise in AE.*
2. *All government spending adds to AE. Tax cuts change incomes and not all income is spent.*
3. *Treasurer – impact is +$25b (too much); Prime Minister – impact is +$15b (too low); Foreign Minister – impact is $20b (just right); Industry Minister – impact is +$50b (hopelessly too much); Environment – impact is -$20b (change in wrong direction).*

Student Activity 10.4

1. *Under the Charter for Budget Honesty the government is obliged to state its Medium term Financial Strategy (MTFS). The aim of the MTFS is to give some structure to the government's fiscal measures. MTFS aimed to controlling the level of government spending, reducing the Government's share of economic activity over time to free up resources for use in the private sector, keep the tax-to-GDP ratio at or below 23.9% and reduce the level of net debt over time to reduce debt interest payments.*
2. *Controlling the pandemic and preventing economic scarring considered to be most pressing need.*

Student Activity 10.5

1. *Government investment spending replaces (rather than adds to) private investment spending. The NBN is a good example.*
2. *Extra borrowing leads to an increase in interest rates. See Chapter 10 and 11 for appropriate diagrams.*
3. *Likely to be weak in the present circumstances.*
4. *Unlikely in present circumstances.*
5. *(a) (i) Rose from 10% to 28%, (ii) Rose from 28% to 50%*
   (b) Falling from 20% to 15% of GDP;
   (c) Debt financed at low interest rates;
   (d) Debt can be serviced and sustained. It is well within IMF guidelines.

Student Activity 10.6

1. *Recognition, decision, implementation, effect. The economy might have started to recover by itself or because of a new shock before the impact of fiscal policy is felt.*

2. *They like to be re-elected. Spending is more popular than tax cuts. Debt builds up.*
3. *Reducing government spending and debt as a share of GDP. Austerity leads to crowding-in (the opposite of crowding-out) and reduces debt problems.*
4. *Flexible resource markets, especially labour markets. See Chapter 11 for diagram.*
5. *(a) Strength;*
   (b) Weakness;
   (c) Strength;
   (d) Weakness;
   (e) Strength;
   (f) Strength;
   (g) Strength
   (h) Strength;
   (i) Weakness.
6. *Indicators could be relatively high unemployment, below trend growth and inflation below the target range.*

Chapter 10 – Review Questions

1. A; 2. C; 3. C; 4. C; 5. A; 6. C; 7. A; 8. A; 9. A; 10. D

SO YOU THINK YOU UNDERSTAND FISCAL POLICY	
Two main policy instruments 1 Government spending 2 Taxation **Three possible budget outcomes** 1 Budget surplus (G < T) 2 Balanced budget (G = T) 3 Budget deficit (G > T)	**Balanced budget multiplier** Value always = 1. **Why is tax multiplier lower than government spending multiplier?** Direct tax cuts change incomes so only have indirect effect on spending.
Headline and underlying? Headline = all revenue Underlying = excludes sales/purchase of assets **'Cash flow' and 'operating result'** Cash flow = cash balance or difference between spending and revenue in accounting period. Operating result = accrual accounting based on projects and programs.	**Fiscal stance for:** Late recovery and boom = Contractionary Recession and slump = Expansionary **Issues with fiscal activism** 1 Crowding out (see below) 2 Economy will self-adjust (eventually) 3 Issues with government debt (see below) 4 Expansionary bias of politicians 5 Time lags make it difficult to get right
Ways of financing a deficit 1 Selling government bonds 2 Borrowing from RBA 3 Selling assets **Three things to do with a surplus** 1 Pay back or retire some government debt 2 Hold the funds on deposit at RBA 3 Set up special funds e.g. future fund	**Three types of crowding-out** 1 Financial (impact on rate of interest) 2 Resource (projects transferred to government from private sector) 3 Exchange rate (rise in interest rates lifts AUD)
Main taxes and sources of revenue 1 Direct taxes (e.g. income, company) 2 Indirect taxes (e.g. GST) 3 Profits of government businesses 4 Sale of assets 5 Fees and fines	**Problems with government debt** 1 Threat to credit rating 2 Debt trap develops 3 Cost of servicing and sustaining debt 4 Increased vulnerability in a crisis
Difference between current and capital expenditure? Current = Day to day spending Capital = Purchase of public capital goods	**Criticisms of non-active fiscal policy** 1 Economy does not self-correct 2 Monetary policy weak in recession 3 Government spending leads to multiplier process
Five main areas of government spending 1 Social security and transfers 2 Defence 3 Education 4 Health 5 General public services **Cyclical and structural balance** Cyclical = Effect of level of economic activity Structural = money spent on allocative, regulatory and welfare roles **Length of time lags linked to fiscal policy** 1 Inside lags – relatively long 2 Outside lag (effect) – relatively short	**Four reasons for passive fiscal policy** 1 Reduces expansionary bias of politicians 2 Leads to crowding-in 3 Creates good conditions for private sector growth 4 Avoids build-up of public debt **What was budget repair?** 1 Steady reduction in budget deficit 2 Move to budget surplus to pay off some debt **Why was budget repair difficult?** 1 Proposed 'budget savings' seen as unfair 2 Slower growth reduced tax revenue 3 Unemployment was above natural rate

CHAPTER 11: MONETARY POLICY

Student Activity 11.1

1. *An indirect, counter-cyclical, demand-side policy conducted by the Reserve Bank of Australia (RBA) to achieve its economic objectives, conventionally through changes in the cash rate target.*
2. *(a) The Board of the Reserve Bank of Australia;*
   (b) Changes to the cash rate target;
   (c) Stability of the currency, full employment and prosperity for people in Australia;
   (d) 2% to 3%, on average, over the life of the business cycle;
   (e) Primarily demand-side but changes in interest rates affect investment;
   (f) Discretionary;
   (g) Ideally, forward looking;
   (h) The business cycle.
3. *(i) Fear of slipping into deflation, difficult to hit precise figure;*
   (ii) Some people suggest locking in inflation at 2% to 3% is a conspiracy by the government to reduce the real value of its debt and by banks to increase their profits through higher nominal interest rates. Deflation may not be as bad as people fear, e.g. consumption can't be postponed indefinitely and workers will accept nominal pay cuts if they are confident prices will continue to fall. On the other hand, the example of Japan has convinced most central banks around the world to 'do whatever is necessary' to avoid deflation;
   (iii) wider range would allow more expansionary settings to boost growth.

Student Activity 11.2

1. *(a) Changes in the cash rate target;*
2. *See section 11.2 number 3. Measures included enhanced forward guidance, withdrawing interest payments on banks' exchange settlement accounts, quantitative easing and increasing liquidity to the banking sector to encourage lending;*
3. *Recovery from pandemic was quicker than expected so special measures no longer needed.*

Student Activity 11.3

1. *A yield curve is a line that plots the rates of return (or yields) of bonds having equal credit quality but differing maturity dates.*
2. *Its slope is affected, among other things, by (a) views about longer-term inflation, (b) views about future growth rates and the likelihood of recession and (c) likely changes in the cash rate and bond yield targets.*
3. *The aim was to restore confidence in the bond market which, in turn, would provide liquidity to the banking system and enable money to be recycled throughout the economy at low rates of interest. It also helped reinforce the RBA's forward guidance regarding the cash rate.*

Student Activity 11.4

1. *Expansionary stance for a downturn or recession, contractionary stance during a period of inflation.*
2. *(a) Highest 7.5% (mid 1990's), lowest 0.1% during pandemic;*
   (b) Expansionary or accommodative to combat below trend growth;
   (c) Highly expansionary due to fear of deep recession even though the RBA expected fiscal policy to do the heavy lifting;
   (d) Quicker than expected recovery, his in cost-push inflation, cash rate target brought back to neutral levels.
3. *Leading indicators – yield curve, investment intensions; Coincident indicators – retail sales, electricity use; Lagging indicators – GDP and unemployment data. There are many other possible examples.*

Student Activity 11.5

1. *See figure 11.3*
2. *Savings-investment channel, cash flow channel, asset price and wealth channel, exchange rate channel. Possibly a 'vibe' or confidence channel as well.*
3. *(a) Lower rewards for saving, debtor households (e.g. those with variable rate home loans) enjoy lower monthly repayments, change in rates creates new vibe or mood in the economy;*
   (b) Lower borrowing costs to finance investment, rise in consumer spending may make investment more profitable, better vibe in economy;

(c) *Outflow of foreign investment, lower interest rates indicates economy needs a boost.*

4. *See Chapters 8 and 9 for models. Fall in cash rate should increase aggregate demand and rise in cash rate should reduce aggregate expenditure.*

Student Activity 11.6

1. *Monetary policy has long effect lags. It is indirect, banks may not pass on rate changes. Reaction to rate changes may be weak when confidence is low.*
2. *The RBA is politically neutral. Changes can be made regularly (short implementation lag). RBA is transparent about its policy changes and has a clear policy target. There are no crowding out effects from monetary policy. Fiscal policy changes may have a wider impact on sections of the economy.*
3. *Monetary policy has short implementation lags but long effect lags. Fiscal policy lags are the other way round.*
4. *It can be changed every month, but it takes time for interest rate changes work through the various transmission channels.*
5. *It can't deal with cost-push inflation directly. Contractionary interest rates will indirectly reduce demand inflation and then, possibly, wage inflation.*
6. (a) *Setting an inflation target or range, being transparent about the state of the economy and providing forward guidance about policy changes;*
   (b) *Imports of manufactured goods from China and East Asia, new technologies in transport and communications, a strong exchange rate based on high commodity prices;*
   (c) *Surge in demand on relaxation of Covid restrictions, Russian invasion of Ukraine reduced fuel and food supplies on global markets, higher transport costs, fall in the exchange rate.*
7. *See latest Statement from the Governor of the Reserve Bank.*

Chapter 11 – Review Questions

1. C; 2. B; 3. B; 4. B; 5. C; 6. B; 7. C; 8. B; 9. C; 10. B

SO YOU THINK YOU UNDERSTAND MONETARY POLICY	
Three key phrases in definition 1 Changes in the cash rate target 2 Influence the level of economic activity 3 Achievement of macro objectives	**Monetary policy stances** 1 Easing or loosening; 2 Expansionary (Accommodative); 3 Neutral; 4 Tightening; 5 Contractionary
Objectives of Reserve Bank 1 Stability of the currency (low inflation) 2 Maintenance of full employment (NAIRU) 3 Prosperity and welfare of Australians (as much growth for as long as possible)	**Strengths of monetary policy** 1 Direct action, speed and control 2 Short action and implementation lags 3 No political interference 4 Transparency 5 No crowding out effects or debt issues
The policy instrument Cash rate target **Additional instruments during 2020-21** Forward guidance Quantitative easing (now tightening) Yield curve manipulation Interest rates on exchange settlements accounts Extra funds made available to banks	**Six weaknesses of monetary policy** 1 Long impact or effect lag in recession 2 Little impact if rates are already low 3 Banks don't always pass on changes 4 Ineffective against cost-push inflation 5 Blunt instrument – only one cash rate 6 May influence exchange rate
Policy framework (inflation target) Inflation within 2% to 3% band on average over the life of the business cycle **Three reasons for a target** 1 Performance indicator 2 Provides clear policy framework 3 Manages inflation expectations **Why target is 2% / 3%** 1 High opportunity cost of achieving 0% 2 Danger of slipping into deflation if lower 3 CPI overstates changes in cost of living (e.g. quality changes, people shopping around) 1 Bigger target than one specific rate 2 Economy can't be fine tuned	**Recent monetary policy** 2014–18 Periods of stability 2019–20 Rates eased to help growth 2020–21 Low rate of 0.1% in pandemic 2022–24 Rate rise to control inflation **Factors influencing the next move** 1 Inflation levels 2 Recovery of the economy 3 State of the labour market 4 International factors (e.g. Chinese growth) 5 Interest rates overseas

Steps in transmission mechanism 1 Change in cash rate target affects other market interest rates 2 Market rates affect aggregate demand 3 Aggregate demand affects objectives **Five channels of monetary policy** 1 Savings – Investment channel 2 Cash flow channel 3 Asset price and wealth channel 4 Exchange rate channel 5 Vibe or mood channel	**Five problems with a very low cash rate** 1 Protects inefficient producers 2 Reduces income of self-funded retirees 3 Encourages speculative, risky investment 4 Lowers AUD (higher imported inflation) 5 Little impact on consumption and investment

CHAPTER 12: MEASURES TO IMPROVE PRODUCTIVITY

Student Activity 12.1

1. *(a) 100 widgets;*
   (b) 2.5 widgets per hour;
   (c) 8.33 widgets per hour;
   (d) Investment in capital, improved technology embedded in the new machine, perhaps better management.
2. *It is often difficult to measure the productivity in a service industry. The teacher taught fewer students, but same number achieved an A grade. Students may have had different abilities. What was the impact of the investment in laptops?*
3. *(a) It is difficult to identify the product and level of output in A&E and to assign a monetary value to the care given;*
   (b) Expansion of LNG requires capital expenditure before any output is achieved. Once the infrastructure is in place gas platforms become very productive.
   (c) Some of these developments can be accessed for free. The benefits are difficult to identify and value.
4. *(a) Law of diminishing marginal returns;*
   (b) Shifts the curve upwards (more output for each level of resource use;
   (c) Productivity allows non-inflationary economic growth.
5. *See figure 12.1.*

Student Activity 12.2

1. *(a) Growth was reduced during the GFC (2008) and had a downward trend during the late 2010's. Productivity performance seems to follow a similar path;*
   (b) Labour productivity peaked as output in the mining sector responded to high levels of investment. Adapt figure 12.3 for a low growth cycles which accounts for falling productivity in the late 2010's.
2. *Perhaps consider areas where governments have paid most attention including taxation and tax reform, competition policy, wage fixing, infrastructure capacity, international trade, research and innovation, education and migration.*

Student Activity 12.3

1. *(a) Reduced marginal income tax rates are an example;*
   (b) There are many pressures on government spending, e.g. NDIS, climate change mitigation, reduction of government debt built up during the pandemic and geo-political uncertainty.
2. *(a) Awards are more interventionist, enterprise agreements allow for more flexibility and localised negotiation.*
   (b) Recognises areas of market failure in pay negotiations, impact of age distribution on equity, impact of wages growth on inflation;
   (c) More pay for productivity improvements, improved ways of working, ability to make profit and invest in new capital to boost productivity.
3. *(a) Increase in labour supply, keeps people job ready;*
   (b) improvement to health;
   (c) less wasted time e.g. for downloads,
   (d) better education, more skills;
   (e) increase in ready-made skilled workers;
   (f) less downtime as a result of power outages;
   (g) politicians will have to act on climate change, less damage caused by adverse weather events;

(h) more research, better technology;
(i) better transport infrastructure, quicker more reliable journeys;
(j) more trade, quicker turnaround time;
(k) Fewer stoppages, more productive ways of working.

Chapter 12 – Review Questions

1. C; 2. A; 3. D; 4. B; 5. D; 6. C; 7. C; 8. C; 9. B; 10. B

SO YOU THINK YOU UNDERSTAND LABOUR PRODUCTIVITY	
Definition of labour productivity 1 Measure of productive efficiency 2 GDP/hours of labour **Other measures of productivity** Multifactor productivity (GDP/labour and capital inputs) Total factor productivity (GDP/all factor inputs)	**Raising productivity – more government** Public goods e.g. build infrastructure (telecommunications, transport) Merit goods e.g. human capital (health, education, skills) Fund research and innovation Competition policy, anti-monopoly Trade agreements / reduce protectionism Institutional frameworks (legal, finance) Health and safety regulation Higher inward skilled migrants
Measurement issues 1 Identifying/valuing output in service sector 2 Data about hours worked difficult to obtain 3 Output per worker varies from firm to firm 4 Varies during economic cycle. When economy grows fewer resources wasted.	**Raising productivity – less government** Privatisation – government failure Deregulation and decentralisation e.g. Labour market reform (decentralised wage fixing, awards, minimum wage levels, union rights, workplace rights to bargain and strike). Reform of tax and transfer system (e.g. lower marginal tax rates, less feather bedding to reduce moral hazard)
Importance of productivity One of the 3P's that contribute to economic growth. The 3P's are: • Productivity • Population • Participation Show on models • Aggregate production function • AD/AS model • PPF model	**Raising productivity – private sector** Investment – capital deepening Research, innovation, adoption of new technology Growth to get economies of scale Develop management expertise Build competitive advantage overseas
Why productivity is important for growth 1 Productivity growth increases capacity (shifts LRAS to right) and allows non-inflationary growth 2 Productivity growth increases aggregate demand by raising competitiveness and through its link to wages.	**Productivity and other macro objectives** 1 Price stability = reduces production costs 2 Employment = increases structural but reduces general unemployment 3 Income distribution = productivity justifies pay rises, not all workers can increase efficiency 4 Efficient use of resources = by definition
The high growth cycle More investment – more new technology – capital deepening – higher productivity – more profits – higher wages – more investment. **Low growth cycle** Low investment – lack of new technology – capital shallowing – lower productivity – lower profits – lower wages – lack of investment.	**Australia's recent productivity record** Labour productivity = 2.2% pa since 2009 Capital productivity = 0.2% pa since 2009 **Factors affecting productivity** • Growth of service sector • Entry of unskilled workers into workforce • Resources curse • Slow pace of economic reform

ANSWERS TO TRIAL TESTS

UNIT 3 – TRIAL TEST 1

Section A

1. D; 2. C; 3. B; 4. A; 5. B; 6. C; 7. A; 8. B; 9. D; 10. A; 11. A: 12. B; 13. A; 14. D; 15. A; 16. A; 17. C; 18. D; 19. A; 20. C

Section B

21. *(a) (i) Income that flows overseas as a result of foreign owned resources – Interest, dividends and profits*
(ii) Foreign investment (>10% of ownership) e.g. borrowing by a bank
(iii) Services – something that can't be dropped on your foot or loaded on a ship – something done for you or to you, e.g. education and tourism

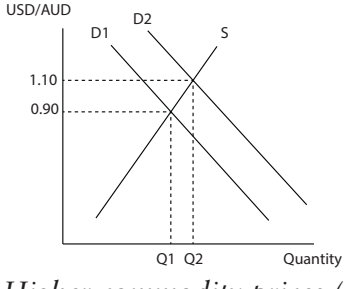
(b)

Balance on goods and services	+8b
Current Account balance	-38b
Net errors and omissions (Balancing item)	-2b

(c) Foreign investment leads to capital imports (recorded on balance of goods), increased exports (recorded on balance of goods), outflows of primary income (recorded in incomes section), and leads to a higher exchange rate and a change exports and imports.
Foreign investment creates more multinationals and they might distort export and import prices through transfer pricing practices
Balance of Payments must sum to zero – current account must equal capital and financial account (with opposite sign)
Link within current account – imports of intermediate goods allow us to export finished goods

22. *(a) Reduced competitiveness of manufacturing industry because of:*
- *Appreciation of AUD until 2015 (expensive exports, cheap imports)*
- *Lack of economies of scale in the domestic market*
- *Re-regulation of the labour market and workplace practices*
- *Growth of efficient low-cost overseas production (e.g. South East Asia, China, India)*
- *Low productivity growth*
- *Government regulation has pushed up some domestic costs*

(b)



Higher commodity prices (i) increase the value of exports given the inelastic nature of demand for commodities and (ii) increase inflows of foreign investment. These increase demand for the AUD. At the original exchange rate (e.g. USD0.90) there is now a shortage of AUD in the foreign exchange market, leading to a rise to a new equilibrium rate (e.g. USD 1.10).

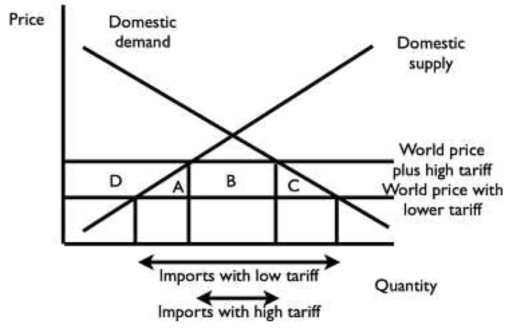
(c) Answer should include:
- *Definition of protectionism*
- *Protectionism appears to restore competitiveness and reduce structural unemployment*

But it leads to long-term problems
- *Reduces growth (resources used less efficiently)*

- *Leads to inflation (higher prices of imported inputs, less competition within Australia, reduction in exchange rate)*
- *Causes cyclical unemployment (causes inflation, loss of exports)*
- *Hits exporters (causes inflation, leads to retaliation, raises exchange rate)*
- *Lost manufacturing capacity for when the mining boom is over*

23. (a) *A trading bloc is a group of 2 or more countries that have agreed to reduce trade barriers within the group. The CPTPP is preferential free trade area.*

(b) (i) *Tariff cuts increase welfare by cutting deadweight loss*



Cutting the tariff reduces the price of imports (world price). Consumers gain consumer surplus (Areas D+A+B+C). Local producers lose producer surplus (area D). Government loses tariff revenue (Area B). Overall gain from tariff cut is, therefore, Areas A+B.
Or show gains from using consumer surplus and/or producer surplus diagrams.

(ii) *Extra trade increases competition and forces our producers to increase productivity. This leads to downward shift in AS if using a macro AD/AS diagram or S if using the tariff diagram.*

(iii) *Cuts price of imports –inputs can be sourced from efficient producers*

(c) *Gains from CPTPP may be limited because:*

- *Australia has limited number of remaining tariffs to cut*
- *Countries may replace tariffs with non-tariff barriers (e.g. government subsidies)*
- *Government is placing extra costs on exporters through regulations*
- *The exchange rate may limit Australian competitiveness*
- *Lack of (micro) economic reform in Australia has led to low productivity growth*
- *Dynamic gains may be less than anticipated if business confidence is low*
- *US has withdrawn from original agreement*

24. (a) (i) *Current account surplus = more inflows than outflows of international trade and incomes.*

(ii) *Net foreign liabilities = Difference between national saving and national investment or net foreign equity + net foreign debt.*

(b) (i) *They are equal. The savings-investment gap is the shortfall in investment finance – the gap is made up by net capital inflows of foreign investment.*

(ii) *They sum to zero. The balance of payments must balance.*

(c) *Causes of the change include:*

- *End of the mining investment boom - sufficient capacity created to allow a production and exporting boom*
- *Mining companies paying dividends to their share holders (income outflow in current account) rather than reinvesting their profits (financial inflow in financial account)*
- *Expansion of the superannuation sector - increased flows into super funds some of which is invested overseas*
- *Trade surpluses (e.g. because of rising commodity prices and the terms of trade, slower economic growth reducing the level of imports).*

(d) *The net foreign liability position is the stock of debt and equity that Australia owes to foreigners less how much foreigners owe Australia; it represents the accumulation of Australia's net capital inflows over many years, as well as changes in the value of the stock of assets and liabilities. Consequences are:*

(i) lower primary income outflows of interest, dividends and profits,
(ii) security of credit rating from lower foreign debt;
(iii) reduced foreign ownership and control,
(iv) lower level of finance available for investment,
(v) Higher saving rate consistent with reduced level of consumption.

Section C

25. (a) *Economies have become more integrated as a result of freer trade, freer movement of capital flows (foreign investment), freer movements of currency (currency convertibility and floating rates), freer movement of people, easier transfer of ideas, knowledge, technology and culture*

(b) *Key changes in pattern of international trade*

- *Direction: Less to Europe (and US); More to Asia (China, India and South East Asia)*
- *Composition: Less STM manufactured goods exports, more STM imports; More resource (mineral and energy) exports; More intermediate goods (due to global value chains); More capital goods.*

Changes in direction are linked to changes in composition and vice versa (e.g. more resource sales to China and STM imports from China because of growth of manufacturing in China)

Connections between globalisation and trade pattern could include:

- *Globalisation has been the main driver of economic growth in China, India and other South East Asian Tiger economies. Growth in these countries allows growth in resource exports and growth in imports of manufactured goods)*
- *Freer trade leads to specialisation (e.g. Australia has comparative advantage in mineral and energy resources, China has comparative advantage in manufactured goods). Lower tariffs have encouraged imports e.g. of cars and clothing.*
- *Freer capital or foreign investment flows has contributed to the growth of the Australian mineral and energy sector (closed investment – savings gap, increased capacity)*
- *Free movement of capital allowed growth of sub-prime mortgage problems that led to global financial crisis. This in turn contributed to recession in Europe and US and loss of sales to them.*
- *Increased levels of foreign direct investment are associated with the development of global supply networks or chains. This can be linked to the growth in intermediate goods imports.*
- *Development of mineral and energy sector has contributed to growth in capital goods imports (e.g. oil rigs, port facilities)*
- *Freer currency flows (and other trade and investment flows) have led to the rise in the value of the AUD. The rise in the AUD changes trade flows (e.g. loss of some service exports such as tourism and education)*

26. (a) *Foreign Debt (over 100% of total net liabilities); Sovereign (Public or Government) (about 10% of foreign debt); could be divided further e.g. in to short term and long term; Private Sector (about 90% of foreign debt) (e.g. borrowing by banks). Foreign Equity (positive because of value of overseas superannuation funds); Direct (more than 10% ownership) – relatively small proportion of foreign equity; Portfolio – majority of foreign equity*

(b) *Definition of Foreign Direct Investment (FDI) – more than 10% ownership, for control and influence over business. Give example e.g. Chinese purchase of coal mine. Three advantages which could include*

- *Helps close investment – savings gap (provides finance) – difficult to raise finance from Australian financial and capital markets – reinvestment of profits*
- *Encourages technology and knowledge transfer (e.g. from research and development)*
- *Introduces improved work practices (e.g. Ford and Holden car plants)*
- *Increases capacity and boosts exports (e.g. LNG, coal, iron ore)*
- *Injection into circular flow – triggers multiplier effect – creates employment*

Three disadvantages which could include

- *Outflow of primary income (dividends and profits)*
- *Loss of economic sovereignty – key decision making made elsewhere (e.g. car industry)*
- *Loss of national sovereignty – resources may not be developed in national interest (e.g. agricultural land or resources may be 'mothballed' in the short term, exports sold to country of ownership rather than on global markets at best price)*
- *'Branch office economy' syndrome – MNC's bring in own managers, big decisions taken overseas*
- *Tax avoidance – MNC's may use transfer pricing to reduce tax liability or press for special treatment from government (or get subsidies in the form of 'co-partnership payments')*

27. (a) *Terms of trade – average price of exports / average price of imports*

Change in export prices

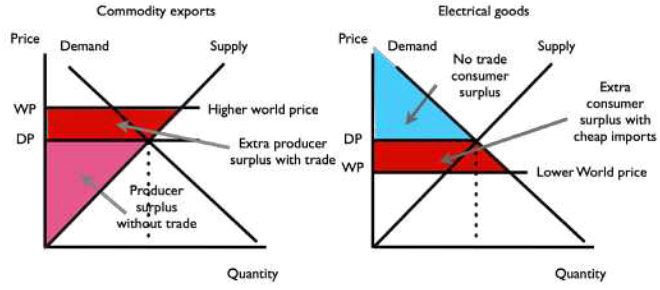
- *Demand for commodities from China and India, inelastic supply*

- *Food prices – higher rural commodity prices*
- *Move to elaborately transformed manufactured goods*

Change in import prices

- *Manufactured output from China and India and South East Asia*
- *Fall in electrical and computing goods products as technology advances*
- *Change in value of AUD*

(b)



Without trade producers are limited to selling in the domestic market and receive the domestic price (DP). With trade producers can sell in export markets and charge a higher price because they are more efficient than producers in these countries. Producer surplus (the difference between costs of production and the price they have receive) increases as a result.

Without trade consumers are limited to buying in the domestic market at high prices (DP). With trade consumers can buy imports at a lower price (WP). Consumer surplus (the difference between the price paid and the price they are prepared to pay) increases as a result.

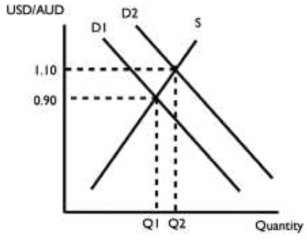
28. *(a) Credits = inflows of finance, debits = outflows of finance. Three credits from*

- *Exports of goods and services (e.g. coal, banking)*
- *Inflows of primary income (interest, dividends and profits)*
- *Inflows of secondary income (e.g. migrants pensions)*
- *Inflows of foreign investment (e.g. FDI)*

Three debits from

- *Imports of goods and services (e.g. toys, overseas tourism)*
- *Outflows of primary income (e.g. interest, dividends and profits)*
- *Outflows of secondary income (e.g. foreign aid)*
- *Outflows of foreign investment (purchase of UK bank by Australian Bank)*

(b) Part one: Financial flows and the exchange rate. In general, exchange rate is determined by demand and supply for AUD in foreign exchange market.



Demand is generated by credits in BOP (= financial inflows), supply by debits in BOP (= financial outflows)

So, other things being equal

- *A rise in foreign investment (surplus on financial account) leads to a rise in the AUD – e.g. risk-off view of the world predominates*
- *A drop in exports (deficit on trade in goods) leads to a fall in the AUD – e.g. slowdown in Chinese growth*
- *An increase in primary income outflows (e.g. higher interest rates, bigger profits from MNC's) leads to a fall in AUD*

Part two: The exchange rate and selected financial flows; A rise in the AUD will make it:

- *Harder to export (overseas price in foreign currency rises – other things being equal)*
- *More attractive to import (cheaper import prices) – perhaps explain reverse J-curves*
- *Less attractive to invest in Australia (assets more expensive in forex terms)*
- *More attractive to invest overseas (overseas assets seem cheap in AUD)*

These relationships suggest the exchange rate is an 'automatic stabiliser' helping to bring the current account back towards balance.

UNIT 4 – TRIAL TEST 2

Section A

1. C; 2. C; 3. D; 4. D; 5. A; 6. A; 7. C; 8. D; 9. D; 10. B; 11. B; 12. D; 13. B; 14. C; 15. C; 16. D; 17. B; 18. B; 19. C; 20. C

Section B

21. *(a) (i) 1.4m*
    (ii) Mining and manufacturing
    (b) Rise in incomes and high income elasticity of demand, outsourcing by mining and manufacturing firms, many services not-traded internationally so not affected by high exchange rate.
    (c) Rise in structural unemployment, displaced workers lack skills to move into other sectors; multiplier effect, direct suppliers lose contracts; search for higher labour productivity in sector, cost cutting and change of focus to high-end, low volume products perhaps part of a global value chain.
22. *(a) (i) -6.5%*
    (ii) Expansionary at first then contractionary as the size of the structural deficit was reduced.
    (b) Inability to find fair ways to cut welfare and benefits; below trend rate of economic growth and size of automatic stabilisation effect.
    (c) Advantages: Debt reduction (saving interest payments, keeping credit rating), no crowding out as government borrowing will fall; Disadvantages: Deflationary effect when economic growth is below trend, cuts to areas of government spending that otherwise would have expanded the level of potential output in the economy (e.g. education, CSIRO research, health).
23. *(a) (i) 1.7% (change in CPI);*
    (ii) 3.2% (change in GDP);
    (b) Leading indicators change in advance of changes in the economy (e.g. index of consumer confidence), lagging indicators change after the level of activity has changed (e.g. unemployment rate and inflation rate).
    (c) Normally when the growth rate falls (3.2% to 2.5% in the table), inflation falls (1.7%, 2.3% and 2.1% in the table) and unemployment rises (6.2% to 6.5%). This can be illustrated using a simple Phillips Curve model. However, non-demand factors can affect these relationships such as a fall in cost-push inflation (e.g. fall in petrol prices in Year 1), changes in the labour force and changes in labour productivity.
24. *(a) In early 2022 the monetary policy stance was highly expansionary with record low cash rates of 0.1%. This was an attempt by the RBA to support economic recovery after the pandemic. However, the stance steadily became contractionary in response to 'the highest rate of inflation experienced in Australia in more than 30 years'.*
    (b) There are recognition and effect time lags associated with monetary policy. It takes time to determine whether to change rates and by how much, and it takes time for changes in the rate to have an impact on consumption, investment and net exports.
    (c) The inflation target is 2-3% annual growth, on average over the life of the economic cycle. Inflation 'is corrosive and damages our economy'. The extract mentions its regressive impact on income distribution, its impact on decision making, the impact on growth and employment and the tendency for inflation to fuel more inflation when it becomes 'ingrained in expectations'.

Section C

25. *(a) The business cycle is a model to show a typical path of an economy over a period of time, during which the economy passes through a series of phases as actual growth moves above and then below the trend growth rate of the economy. Draw and explain a diagram to show the four phases and the level of the output gap at each stage.*
    (b) After a downturn or recession economic activity does not come to a complete halt. There are a number of factors that lead to the establishment of a lower turning point or floor for the economy. Some demand will be maintained for all of the components of aggregate demand such as necessary survival consumption, planned replacement investment, exports as long as there is demand from other countries, automatic fiscal stabilisation and some structural government spending. The government and the Reserve Bank reinforce the floor

by adopting an expansionary policy stance (e.g. a structural budget deficit and lower cash rates) to reinforce the floor.

26. *(a) A fall in cash rates represents a loosening of monetary policy with the intention of stimulating aggregate demand. The impact of monetary policy on aggregate demand is indirect, firstly, because cash rates influence other interest rates and, secondly, because changes in interest rates affect the components of aggregate demand in five ways, by reducing the reward for saving, by reducing the exchange rate, by increasing the cash flow (disposable income) of debtor households and businesses, by increasing the value of shares and houses thus increasing the nominal wealth of households and by changing the mood or atmosphere in the economy.*

(b) Monetary policy is not very effective at stimulating an economy when growth is low. There are a number of reasons for the weakness in the transmission mechanism including banks do not necessarily pass on cash rate cuts to their customers, low consumer confidence means consumers continue to save even though rates are low, low business confidence means firms are reluctant to invest, other factors may support the exchange rate and the fall in rates might be interpreted as a sign of further weakness in the economy. Draw and explain an aggregate demand and supply model showing the impact of expansionary monetary policy.

27. *(a) Economic efficiency involves productive (technical) efficiency and allocative efficiency. Using scarce resources in the best way to satisfy society's needs and wants. Productivity is an indicator or measure of efficiency. Productivity measures include labour productivity (GDP / labour input) and multi-factor productivity (GDP / capital + labour input). International competitiveness league tables indicate relative efficiency, too.*

(b) Define labour productivity. Growth in labour productivity allows sustained non-inflationary growth and helps raise material living standards. Draw and explain a suitable diagram (e.g. PPF diagram, or Aggregate Production Function, AD and AS diagram). Labour productivity allows Australian producers to stay internationally competitive in globalised markets. However, it may lead to structural change, structural unemployment and a change in work practices. It is a long-term process and can't be used for counter-cyclical demand management.

28. *(a) Aggregate demand curves slope down to the right showing an inverse relationship between aggregate demand and the price level. There are three reasons for this relationship, the wealth effect, the effect on international competitiveness and the interest rate effect (see text for more details). When the price level changes AD contracts or expands, shown as a movement along the AD curve. Draw and explain a diagram. When a non-price factor leads to a change in the level of one or more components of aggregate demand (C + Ip + G + X – M) the AD curve decreases or increases. Draw and explain a diagram to show this.*

(b) Analyse the impact of a change in oil prices on aggregate demand and aggregate supply. (See text in Chapter 11 for likely points). Draw and explain diagram. Show the new equilibrium position and explain the impact on the macroeconomic objectives of growth, price stability and full employment.

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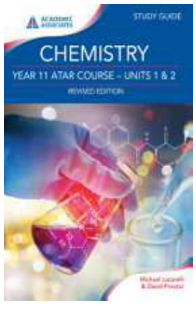

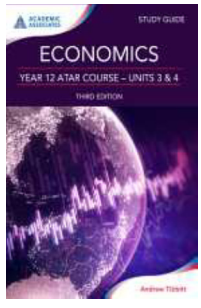

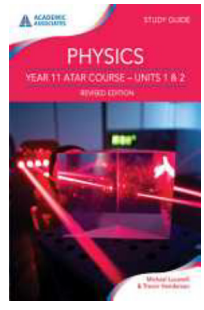

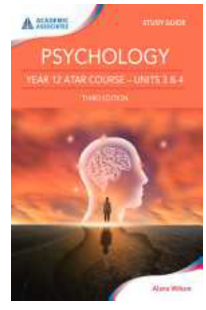

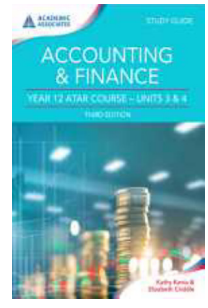

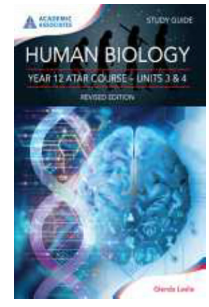

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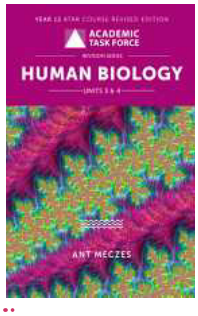

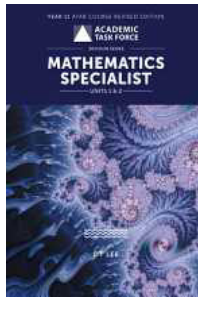

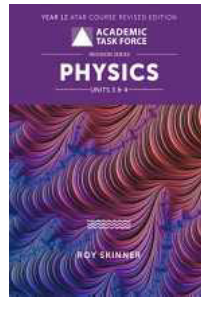

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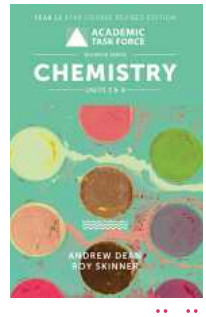

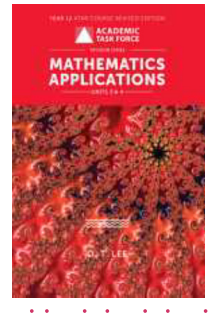

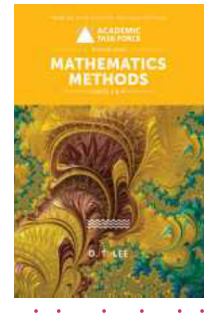

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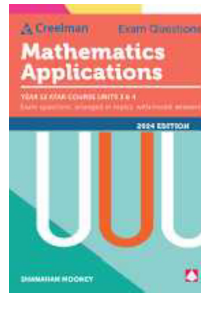

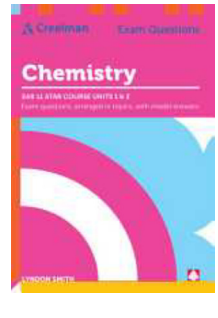

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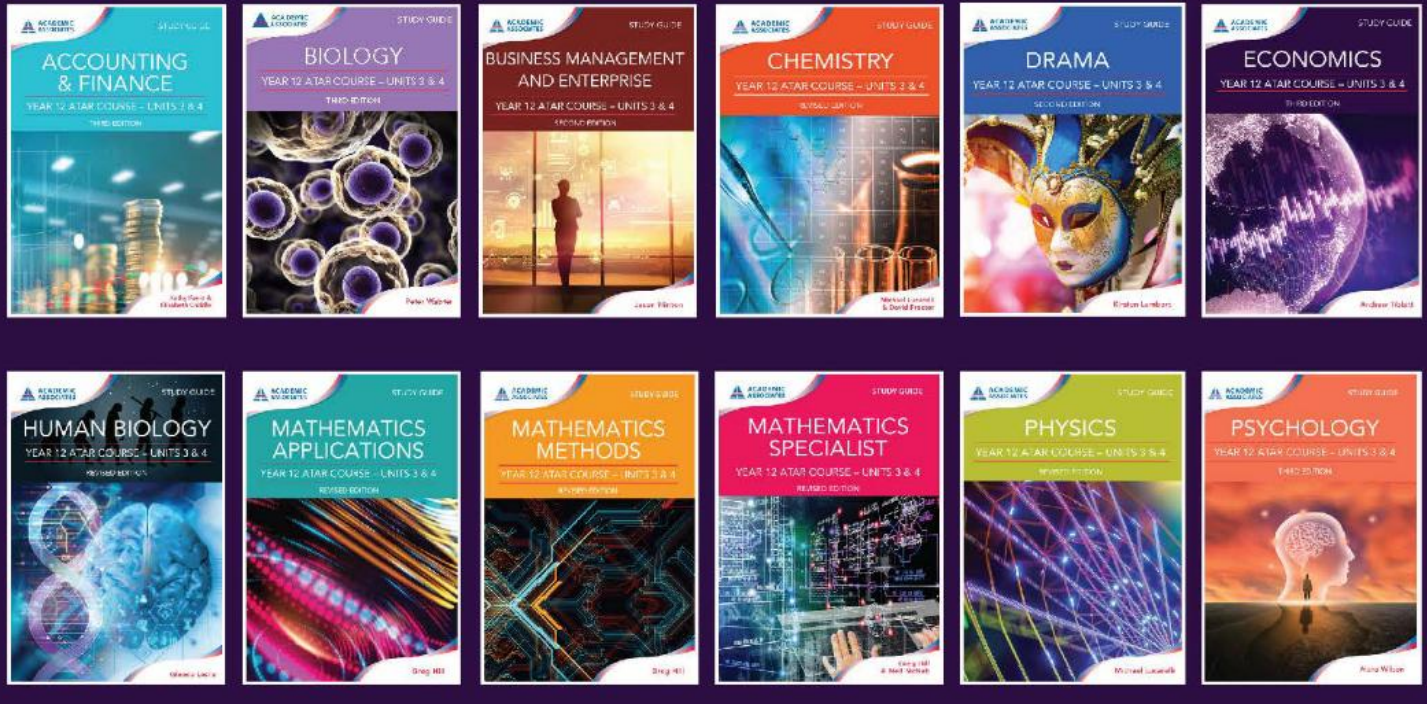

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