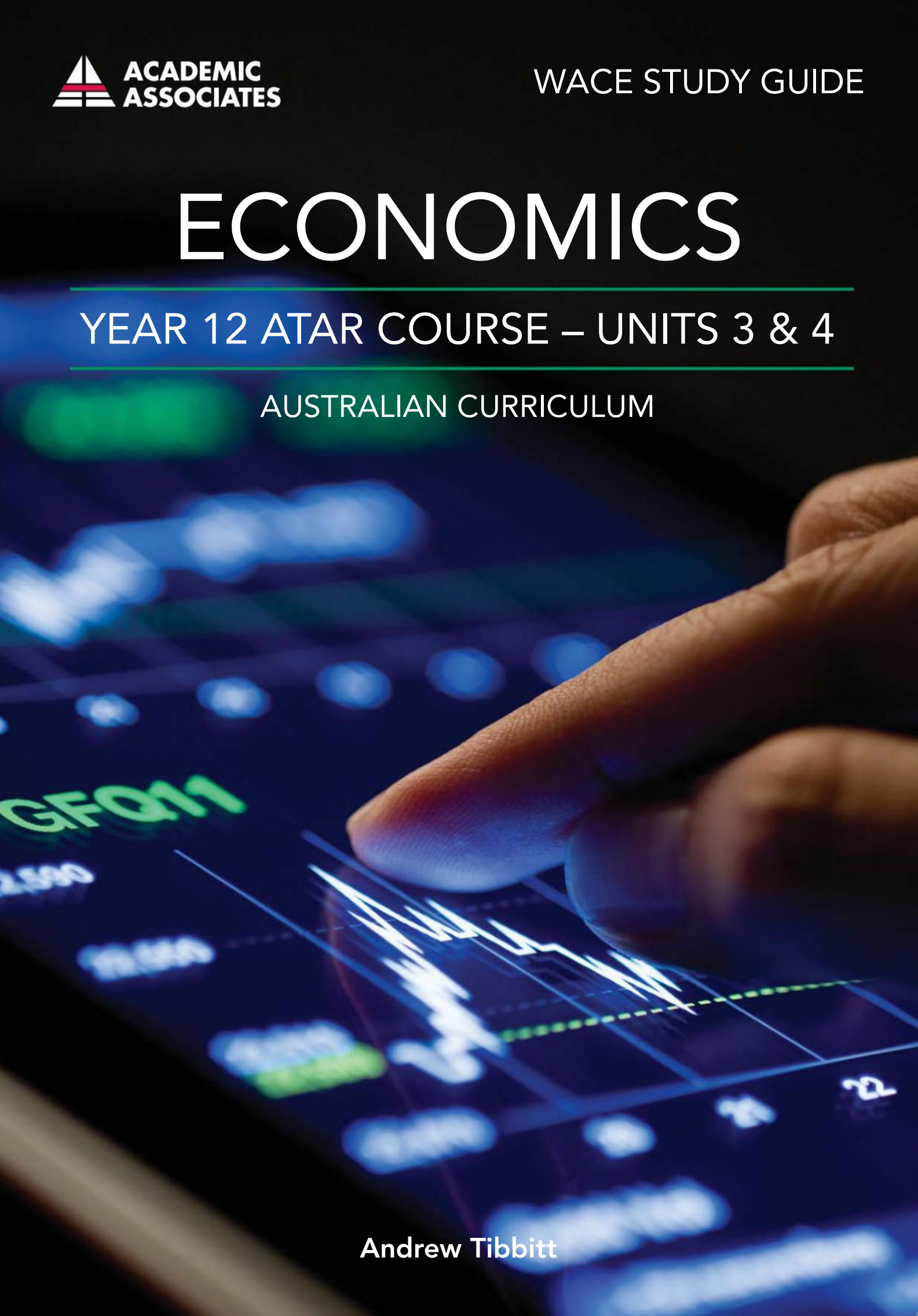


ECONOMICS

YEAR 12 ATAR COURSE – UNITS 3 & 4

AUSTRALIAN CURRICULUM



Andrew Tibbitt



WACE Study Guide

ECONOMICS

YR 12 ATAR COURSE

Andrew Tibbitt

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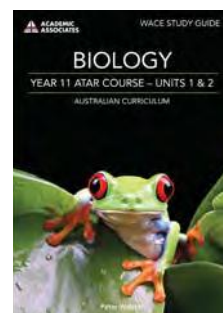
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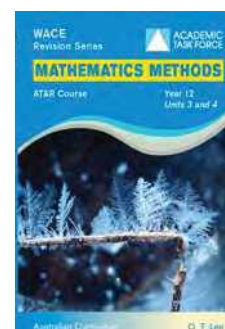
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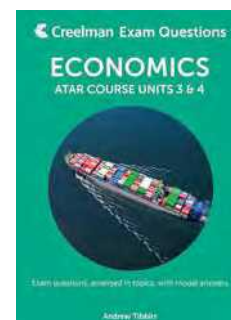
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TO THE STUDENT

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

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 Economic Policies and Management.

The focus of the Australia and the Global Economy unit is the interdependence of 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 the unit are globalisation, trade liberalisation and protection in relation to the Australian economy, Australia's pattern of trade, the recording of international transactions and the impact of these transactions on the Australian economy. Recent (the last ten years) and contemporary (the last three years) economic data and appropriate economic terminology, theories and models are used throughout the unit.

The themes of the Economic Policies and Management Unit are the economic objectives of the Australian Government and the fiscal policy, monetary policy and economic reform measures taken to achieve these objectives. Changes in the level of economic activity influence the policy mix and the government's capacity to achieve its objectives. Recent (the last ten years) and contemporary (the last three years) economic data and appropriate economic terminology, theories and models are used throughout the unit.

Three general outcomes

- **Outcome 1** – Economic Inquiry: Students will be able to find and use economic information to show they understand economic events, issues and decisions, using appropriate economic terms, concepts and models
- **Outcome 2** – The Operation of the economy: Students will develop an understanding of the key factors that affect the way the economy operates and the consequences of economic choices.
- **Outcome 3** – Economic policy and action: Students will be able to explain how Government intervention affects the performance of the economy.

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. Be prepared, however, to come across exceptions to a number of 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, for people to exercise their free will and to act less predictably than economists assume will be the case, for people to be biased and to have opinions and for rival models of economic behaviour to produce contradictory theories and predictions. These issues are what make economics interesting.

The Author

Andrew Tibbitt is an experienced economics teacher and author, having taught both WACE Economics and the International Baccalaureate Diploma at year 11 and 12 levels and written a number of economics textbooks and journal articles. He is a life member of the Western Australia Economic Teachers' Association and has been involved with both syllabus development and as an assistant examiner over many years.

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ECONOMICS

UNIT 3



GLOBAL INTERDEPENDENCE



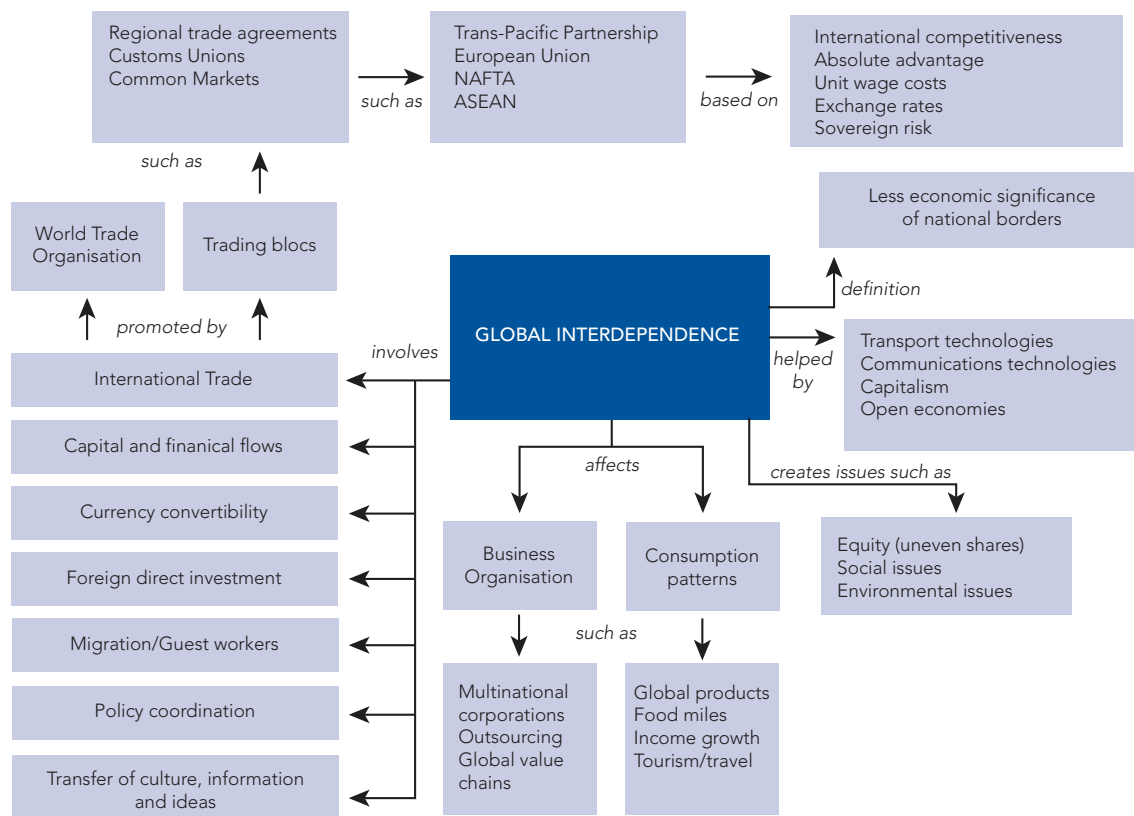
SYLLABUS CHECKLIST

Topics covered in this chapter:

- ☐ Linkages between economies, including trade, investment, tourism and immigration
- ☐ The patterns and trends in global trade
- ☐ The concept and determinants, of international competitiveness
- ☐ The concept and extent, of globalisation
- ☐ The factors facilitating globalisation
- ☐ Economic effects of globalisation

OVERVIEW – 10 STEPS TO UNDERSTANDING GLOBAL INTERDEPENDENCE

1	The world economy is a complex system in which national economies are increasingly interconnected. The economic performance in one country is dependent on the economic performance of other countries.
2	Increased interdependence is the result of the process of globalisation. Globalisation involves the economic integration of national economies and, as a consequence, a reduction in the economic significance of national borders.
3	Globalisation is not a new process (e.g. it was a feature of colonial times) but the pace and extent of globalisation has increased significantly during recent decades.
4	Economically countries are connected through trade, capital and financial flows, foreign direct investment, convertible currencies, migration, policy coordination and the transmission of culture, information and ideas.
5	Globalisation has changed the way many products are made. For example, many products are not produced in one country but in several countries. Production involves global value chains where value is added throughout the chain. Multinational Corporations dominate several industries (e.g. cars, electrical goods, oil production) producing output in several countries.
6	Globalisation has also changed patterns of consumption. There are global products that are consumed in many countries around the world (e.g. cars, TV shows, football shirts) and local products that are influenced by ideas and cultures from other parts of the world (e.g. restaurants). Globalisation means that familiar products are available globally and unfamiliar products are available locally.
7	These changes are the result of a number of factors including; (i) reduced transport costs as a result of changes in transport technologies (e.g. use of containers and jet aircraft); (ii) the spread of cultures, information and ideas across the world, changes through developments in communications technologies (e.g. internet, satellites, social media, mobile phones); (iii) changes in political systems (e.g. from communism in the USSR to capitalism in Russia) and (iv) changes in economic policy (e.g. tariff reductions and reduced restrictions on foreign investment).
8	Economic integration has increased economic growth by promoting a more efficient use of global resources and finance. This growth has created new jobs and higher material living standards for billions of people, both in economically developed countries such as Australia and in less economically developed countries such as China and India.
9	There are some negative aspects to globalisation that concern equity, social and environmental issues rather than economic efficiency.
10	Increased global interdependence has a significant impact across many areas. It is a common element in all the topics covered in Unit 3 and the Government and Reserve Bank policy measures covered in Unit 4.



1.1 WHAT IS MEANT BY THE TERM 'GLOBAL INTERDEPENDENCE'?

Increasingly the economic performance of a country is coupled with the performance of other countries. The world economy has developed into a complex system through which changes in one country have knock-on effects elsewhere. For example, in 2014, slower economic growth in the US and Europe led to slower growth in China through a drop in exports of consumer goods. In turn this led to slower economic growth in Australia through falling commodity prices and an end to the mining investment boom.

What process has created this complex system?

Increased interdependence is the result of the process of globalisation. Globalisation involves the economic integration of national economies and, as a consequence, a reduction in the economic significance of national borders. Globalisation has been taking place for hundreds of years, for example, during the colonial era in the nineteenth century, but the process has accelerated over the last half-century.

What is the scope and extent of globalisation?

- **Trade:** Exports and imports of goods and services have grown at a faster rate than global output as countries have encouraged the freer movement of goods and services between economies.
- **Capital and finance:** Global capital and financial markets allow the use of savings in one country to finance economic activity in other countries. For example, during 2012-13 the so-called 'carry trade' saw Japanese investors depositing money in Australian banks to increase the returns on their savings.
- **Foreign Direct Investment (FDI):** Multinational corporations (MNCs) have taken the opportunity provided by national governments to develop a production capacity in more than one country. MNCs provide a channel through which knowledge and technology is transferred between countries. Examples of industries that are now dominated by MNCs include the car industry, the oil industry and food industry.

- **Foreign Currency:** Most currencies are now fully convertible, meaning they can be traded on foreign exchange markets for other currencies at floating or market-driven exchange rates. In Europe many members of the European Union share a single currency – the Euro – and other countries and markets use the US dollar as a unit of account and medium of exchange even when the US has no direct involvement with the transaction.
- **Tourism and travel:** Higher disposable incomes and cheaper, more reliable transport has led to the rapid growth of tourism and travel. Tourism and travel not only directly adds to economic activity but also influences patterns of consumption as travellers, for example, discover new foods and products.
- **Guest workers and migration:** Many countries have sought to expand the quantity and quality of their labour force by issuing short-term work permits or promoting long-term migration. For example, skilled workers were recruited to work in Australia's mining sector on fixed contract 457 visas.
- **Culture:** Multiculturalism has developed as people communicate through, for example, travel, social media and global broadcasting.
- **Policy coordination:** Governments increasingly see the importance of synchronising economic policies, through attendance at summit meetings, such as the G20 in Brisbane in 2014, but also by harmonising, for example, tax rates and interest rates.

Student Activity 1.1

1. Define the term 'globalisation'.

2. Identify, and give examples of five important areas where national economies have become integrated

(a)

(b)

(c)

(d)

(e)

3. Identify the aspect of globalisation linked to the economic indicators or changes listed.

Indicator of globalisation		Area of globalisation
a)	Changing patterns of trade Increased import penetration ratios Number of free trade agreements Reduction in tariffs Global Value Chains / Production networks	
b)	Growth in influence of multinational corporations Growth in Corporate Social Responsibility policies Global brands and niche markets	
c)	Global financial crisis European Debt crisis Development of international stock markets	
d)	Multiculturalism and cultural imperialism Global brands Growth in international tourism	
e)	Harmonisation of monetary and fiscal policy International organisations (e.g. WTO, IMF, UN, NGOs) Loss of national economic sovereignty	
f)	Number of people living and working overseas Number of guest or contract workers	
g)	Global media networks Social media 24/7 news	
h)	Number of floating, convertible currencies Common currencies such as the Euro	

4. Use the chart below to estimate the extent of globalisation in Australia. Rate each area of globalisation in the left hand column according to the level of freedom to trade or transfer these products or resources in and out of Australia using a zero to ten scale. Zero = interaction not possible, 100% government restriction, while ten = complete freedom to interact, no government restrictions or controls at all.

	0	1	2	3	4	5	6	7	8	9	10
Trade in agricultural products											
Trade in services											
Overseas travel / tourism											
Trade in manufactured goods											
Investment											
Finance											
Migration											

5. The chart compares the volume of world merchandise (goods) trade and GDP between 2005 and 2015.



Source: World Trade Organisation Press Release 2014

- (a) What was the average rate of growth in exports between 2005 and 2013?

- (b) What was the average rate of growth of world GDP between 2005 and 2013?

- (c) Using the data state whether trade has become a more important or less important feature of the global economy during this period. State why.

- (d) Explain why both trade and world GDP fell in 2009.

- (e) Briefly describe the relationship between growth in exports and average GDP growth.

1.2 WHAT HAS HAPPENED TO THE PATTERN OF PRODUCTION AS A RESULT OF GLOBALISATION?

Globalisation has caused a number of changes to the way products are produced.

- A key development has been the creation of global value chains. Through these chains or networks, products are less likely to be made in a single country and more likely to be part-produced in many countries. Resources can be sourced internationally and the manufacture of intermediate components can be outsourced to companies who can exploit a competitive advantage and maximise productive efficiency. Resources and intermediate products can then be cheaply and speedily transported to a common venue for assembly of the final product.
- Global value chains, therefore, lead to a change in the location of production. For example, several Australian clothing manufacturers have switched production to countries such as Bangladesh where there are relatively low labour costs (about a quarter of those in Australia) but also high skill levels.
- These in turn promote changes in the structure of companies and the development of Multinational Corporations (MNCs) and in joint ventures operations. Large firms will be able to benefit from economies of scale.

Can you give examples of global value chain?

Many products are no longer manufactured in only one country, they're made in the world.

CASE STUDY 1 – BOEING 787 DREAMLINERS: Boeing 787s are assembled in Seattle, USA, using intermediate products made in countries around the world. Note the moveable trailing edges of the wings are made in Melbourne.

Part of Dreamliner	Company	Country
Lithium-ion batteries	GS Yuasa	Japan
Forward fuselage 1	Kawasaki	Japan
Forward fuselage 2	Spirit	US
Landing gear structure	Messier-Dowty	France
Landing gear wheel	Kawasaki	Japan
Wing	Mitsubishi	Japan
Centre wing box	Fuji	Japan
Engine nacelles	Goodrich	US
Engines	Rolls Royce	UK
Fixed trailing edge of wing	Kawasaki	Japan
Moveable trailing edge of wing	Boeing	Australia
Rear fuselage	Boeing	US
Horizontal stabilizer	Alenia	Italy
Passenger doors	Latecoere	France
Cargo doors	Saab	Sweden
Tail fin	Boeing	US

Source: Department of Foreign Affairs and Trade, Trade at a glance, 2014.

CASE STUDY 2 – NUTELLA: Nutella is a chocolate spread made in Lithgow, New South Wales but with hazelnuts from Turkey, sugar from Brazil, vanilla flavour from France, palm oil from Malaysia and cocoa from Nigeria.

CASE STUDY 3 – JEANS: An Australian retailer sends a design order to a factory in Dhaka, Bangladesh. Production costs, including materials and labour, are \$8 for each garment. The factory loads the order into a container and trucks the container to the port of Chittagong

150 kms away before shipment to Fremantle. Transport costs are \$1 per garment, making the average total cost \$9. A 10% tariff imposed by Australia raises the average total cost to \$9.90. The container is trucked to the retailers warehouse, repackaged and distributed to their stores at an additional cost of \$2.50 per garment. The store adds a 325% mark-up to cover rent, wages, advertising and profit. The jeans sell for \$40 each.

What has happened to consumption as a result of globalisation?

Globalisation has, among other things, led to rising living standards in most countries, but particularly in South and East Asia. As incomes rise in countries such as China, India and Indonesia demand for consumer goods grows. It is estimated that trade between China and India alone will account for almost one-fifth of global trade by 2020. Consumers are more aware of global brands through travel and communications technologies and rising disposable incomes provide access to these products.

Can you give an example of a new export market to China?

FRESH MILK: Australian dairy producers have the capacity to export 20 million litres of fresh milk to meet new demand from consumers in China each year using what producers call their new cold chain pipeline. A 'Green Channel' system for the customs and quarantine clearance of fresh milk exported to China, has now been established that will ensure fresh milk from Australia can be delivered from the farm gate to customers in China within 7 days or less. This enables fresh milk to be available to consumers in China with ample remaining shelf life at time of purchase.

What has happened to the pattern of world trade and foreign investment?

The changes in the pattern of production and consumption clearly affect the pattern of world trade and investment. For example, they have led to:

- Rise in trade in intermediate goods, products now being made in several countries
- Branded manufactured goods being marketed in global markets
- Growth in services and support
- Commodities sourced globally
- Development of global capital and financial markets.

Student Activity 1.2

1. Explain why Boeing doesn't make all of the 787 Dreamliner itself? What advantages might be available from their policy of global outsourcing?

2. Discuss whether Nutella is 'Australian Made'.

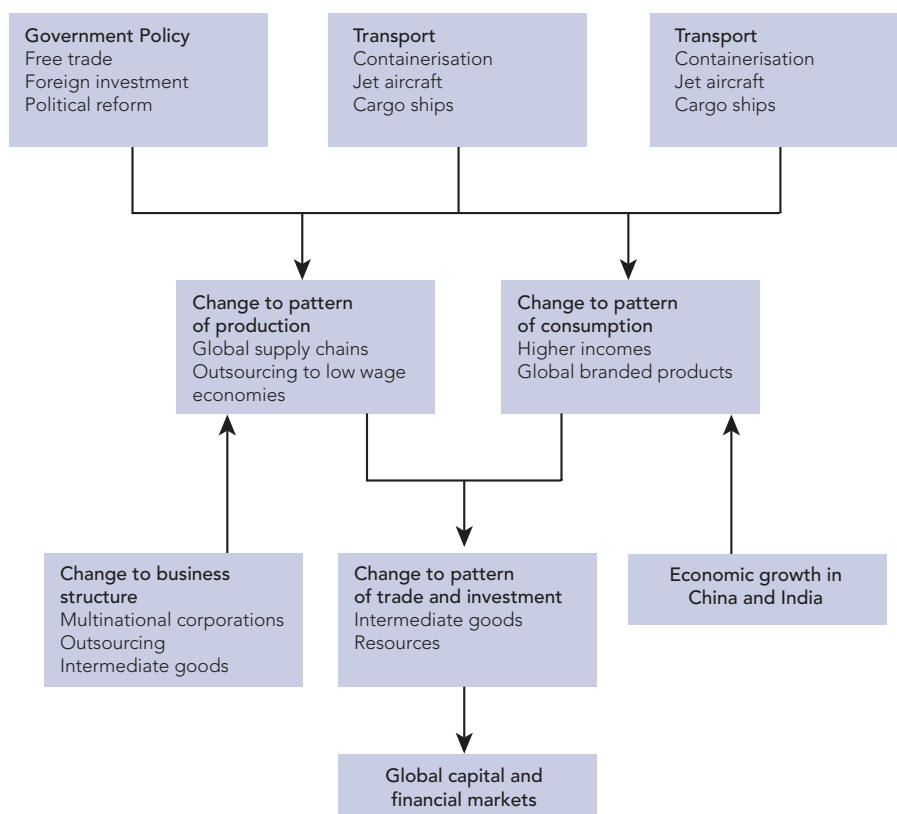
3. In the jeans case study, why does the clothing retailer not buy jeans from Australian manufacturers?

4. What factors were important in the development of the market for Australian fresh milk in China?

1.3 WHAT HAS FACILITATED THE PROCESS OF GLOBALISATION?

At the heart of the process of globalisation is a desire for higher material living standards and bigger corporate profits. Three general factors have promoted the process of globalisation.

- **Government policy changes:** Governments have helped the globalisation process by becoming more open to trade and investment flows. The barriers to trade are reduced through (i) unilateral action (e.g. Australia reducing tariffs on car imports), (ii) regional trade agreements (e.g. free trade agreements between Australia and Japan, Republic of Korea and China) and (iii) treaties promoted by global institutions such as the World Trade Organisation (WTO). The world has also seen significant political reforms and the growth of market-based economies, for example, in Eastern Europe following the collapse of USSR and in the outward orientation of China and India.
- **Advances on transport technologies:** Improvements in transport technologies mean that resources, intermediate and final products can be transported around the world more reliably, more efficiently and at much reduced cost. Examples of these technologies include larger cargo ships, use of containers and improved aircraft design.
- **Increased communication:** Ideas, designs, knowledge and information can be shared and spread around the world at great speed as a result of developments in communications technologies, for example, the Internet, satellites, fibre-optics and social networks.



Student Activity 1.3

1. List and briefly explain three factors that have helped the process of globalisation.

(a)

(b)

(c)

2. List and briefly explain three factors that have hindered the process of globalisation.

(a)

(b)

(c)

1.4 WHAT ARE THE POSITIVE EFFECTS OF GLOBALISATION?

Globalisation is having a dramatic effect on world economies and on people's lives. The main positive effects of globalisation include:

- **A more efficient use of resources leading to higher growth and material living standards:** Increased flows of international trade allow resources to be allocated and used more efficiently. Trade delivers dynamic gains, for example, because of more competition and the chance to benefit from economies of scale, and static gains from specialisation based on competitive advantage. Over two billion people have escaped from primary poverty in China, India, South East Asia and Africa as a result of higher growth.
- **Higher tax revenue available for spending on public and merit goods:** Growth means higher output, incomes and spending. This means there is more tax revenue for governments to use to provide public and merit goods and services, such as transport infrastructure, health and education.
- **Lower inflation:** Trade not only leads to greater productive efficiency, it also increases the level of competition in product markets that keeps inflation in check.
- **Higher levels of employment:** Trade and investment create new jobs and offer workers the chance to learn new skills and earn higher pay.
- **Access to Foreign Investment:** Freer capital and financial markets help match the supply of savings with the demand for savings. Foreign investment promotes technology and knowledge transfer and allows producers to benefit from economies of scale.

- **Economic cooperation:** Countries with closer trade and investment ties may develop closer political ties. This can be described as a 'peace dividend' from globalisation. Globalisation also increases awareness of global events and allows help to be sent rapidly to places in need. Globalisation makes people more aware of global issues such as deforestation and global warming and alerts them to the need for sustainable development.
- **Multiculturalism:** Globalisation allows the sharing of ideas, experiences and lifestyles of people and cultures. For example, people can experience foods and other products not previously available in their countries. Increased cultural awareness is arguably a good thing in its own right.

What are the negatives associated with globalisation?

There are a number of negative aspects of globalisation.

- **Loss of national and economic sovereignty:** Governments, and the people they represent, may feel less in control of their destiny as result of globalisation. For example, economic performance is more vulnerable to economic shocks in other parts of the world, and international capital and financial flows can destabilise commodity and currency markets. Governments in several countries have been struggling to find ways to make multinational companies, such as Apple, Google and Starbucks, pay tax in countries where their revenue is generated rather than where tax rates are lowest.
- **The gains are not shared evenly:** Although globalisation creates more income and wealth in developing countries, it is not closing the gap between the world's poorest countries and the world's richest. Globalisation operates mostly in the interests of rich countries, which continue to dominate world trade at the expense of developing countries. For example, less economically developed economies (LEDCs) face increased barriers to trade in the form of escalating tariffs when they try to produce and export value-added goods. Many regional trading blocs operate as clubs for 'rich countries' that divert trade away from LEDCs. Flows of foreign direct investment favour developed economies. Arguably, the role of LEDCs in the global economy is restricted to providing the developed economies with cheap labour and raw materials.
- **Structural change:** Changes to the pattern of production associated with globalisation have increased the pace of structural change in developed economies. There has been a reduction in manufacturing jobs in several countries as multinational corporations outsource their production to low wage economies where health, safety and environmental standards are lower.
- **Opportunities for exploitation and greater exposure to market failure:** Globalisation is associated with the spread of environmental damage (caused, for example, by food miles, exploitation and depletion of resources), use of child labour, poor and unsafe working conditions and money laundering.
- **Bad behaviour by multinational corporations:** Multinational corporations (MNCs) have been associated with a number of areas of bad practice such as tax evasion through transfer pricing, repatriating profits rather than reinvesting them in the local economy, and employing foreign workers rather than training local workers. MNCs, with their massive economies of scale, may drive local companies out of business. If it becomes cheaper to operate in another country, the MNC might close down the factory and make local people redundant.
- **Cultural imperialism:** Globalisation may threaten the world's cultural diversity. It is feared it might drown out local economies, traditions and languages and simply re-cast the whole world in the mould of the capitalist North and West. An example of this is that a Hollywood film is far more likely to be successful worldwide than one made in India or China, which also have thriving film industries.

How is the topic linked with other sections of the syllabus?

Global interdependence is a common theme throughout Unit 3 and a strong influence on the formation of the Government and Reserve Bank policy decisions covered in Unit 4. The common thread of global interdependence will be evident throughout the topics in Unit 3 and Unit 4.

Student Activity 1.4

1. What would life be like in 'a local world' – where there were very few links with other countries?

2. Identify, and briefly describe, four individual Australians who hold or are likely to hold different views about the effects of globalisation. Explain the basis of their different opinions.

Person 1

Person 2

Person 3

Person 4

1.5 WHY IS INTERNATIONAL COMPETITIVENESS IMPORTANT?

To be successful in a globalised world, countries need to be internationally competitive so they can:

- Share in the gains from trade
- Attract foreign direct investment and multinational corporations
- Borrow money in capital and financial markets at reasonable rates
- Attract skilled workers

Competitiveness matters because net exports (X-M) and planned investment are key components of aggregate expenditure (or aggregate demand) and hence influence the level of output, employment and incomes and the standard of living in a country.

What does it mean to be internationally competitive?

A country that is internationally competitive can produce goods and services that meet the test of international markets. It reflects the ease or difficulty experienced by a country's producers in selling goods and services overseas. Their ability to export successfully, or make goods domestically that can compete with imports, depends on factors such as:

- Relative inflation rates
- Wage rates per unit of production
- Labour productivity
- Exchange rates

Countries that are internationally competitive will also be able to attract appropriate levels of foreign investment. To do this, for example, there must be:

- Competitive tax rates (e.g. company tax, income tax)
- A low level of sovereign risk

What are some indicators of international competitiveness?

- **Real unit labour costs:** These reflect changes in wages relative to productivity. Lower costs mean increased competitiveness.
- **Exchange rate:** A fall in the Trade Weighted Index (TWI) leads to greater competitiveness, but a high exchange rate may indicate products are meeting the test of international markets.
- **Indices to compare costs of goods in different countries:** (e.g. Big Mac Index, Billy Bookcase Index (Ikea), iPod index).



Student Activity 1.5

- What is likely to happen to Australia's international competitiveness in the following situations (other things being equal)?

A rise in the value of the AUD	
Inflation rates in Australia are lower than those of our trading partners	
Growth in labour productivity is lower than in other countries	
Unit wage rates rise as a result of labour market regulation	

- Australia is more competitive in some industries than others. Add three industries to each of the columns below to illustrate this statement.

Industries where Australia is highly competitive	Industries where Australia is less competitive

- MINI CASE STUDY – FORD CAR WORKERS

1200 jobs to go as Ford pulls out of car production in Australia

FORD will cease producing vehicles in Australia in October 2016, in a move that will cost 1200 jobs. The company has announced the closure of their Broadmeadows and Geelong plants in Victoria where Ford Falcons and Territory SUVs are manufactured. Ford made a \$141 million after-tax loss in 2013-14 and has come to the conclusion that it is no longer viable to produce vehicles in Australia. The company will maintain a significant presence in Australia, with a staff of 1500. Ford currently employs 3500 people in Victoria.

Over the past decade, Ford and its rival GM Holden have shared more than \$12 billion in taxpayer-funded industry assistance but sales of the Ford's iconic Falcon model have fallen to about 20,000, from 80,000 two decades ago. The decision raises fears not just for jobs at Ford but also for the flow-on effect to the car parts industry. The car industry underpins Victoria's manufacturing sector.

The Commonwealth and Victorian governments are expected to announce an assistance package following the decision. The governments will do what they can for Ford workers and affected local communities. Workers will be given every opportunity to find new jobs and regional economies and communities will need to be assisted in securing new investment and employment opportunities.

Source: Adapted from news stories.

- (a) Suggest three likely reasons why Ford felt it was no longer viable to produce cars in Australia.

- (b) Why do you think Ford needs to continue employing 1500 workers after car production has ceased?

- (c) Use information in the passage to describe the multiplier or domino process caused in Victoria by the closure of the factories? How significant will this multiplier process be?

- (d) What might be included in the government assistance package mentioned in the passage? How successful are these measures likely to be?

SO YOU NOW THINK YOU UNDERSTAND GLOBAL INTERDEPENDENCE

Meaning of economic interdependence	Five economic benefits from globalisation 1 2 3 4 5
Definition of globalisation	Five problems associated with globalisation 1 2 3 4 5
Six areas of economic integration 1 2 3 4 5 6	Impact on domestic macroeconomic goals Growth 1 2 Inflation 1 2
Four ways production processes have changed as a result of globalisation 1 2 3 4	Employment / unemployment 1 2 Distribution of income
Four ways consumption has changed as a result of globalisation 1 2 3 4	Impact on domestic policy
Four changes to the pattern of trade caused by the changes to production and consumption 1 2 3 4	Fiscal policy (tax and government spending) 1 2 Monetary Policy 1 2 Supply-side measures 1 2
Three drivers of globalisation 1 2 3	Connections to other topics in Unit 3 Trade (Ch. 2) Protectionism (Ch.3) Pattern of Trade (Ch.4) Balance of Payments (Ch.5) Terms of Trade (Ch.6) Exchange Rates (Ch.7) Foreign Liabilities (Ch.8)

REALITY CHECK

Chapter 1: Global Interdependence

1. Which of the following is NOT linked to the process of globalisation?
 - (a) Increased trade between national economies.
 - (b) Increased integration of national economies.
 - (c) Increased significance of borders between national economies.
 - (d) Reductions in the barriers imposed by governments to product and financial flows between countries.

2. Which of the following is consistent with the process of globalisation?
 - (a) A decrease in trade intensity.
 - (b) Decreased import penetration ratios.
 - (c) Controls by governments on foreign takeovers of domestic business.
 - (d) Freely floating exchange rates.

3. A Multinational Corporation (MNC) is a business that:
 - (a) Exports a high proportion of its output.
 - (b) Imports components and raw materials from other countries.
 - (c) Owns and operates production facilities in more than one country.
 - (d) Borrows money overseas to finance investment.

4. Which of the following is not considered to be a driver of the recent wave of globalisation?
 - (a) Desire by business to gain resource or energy security.
 - (b) Desire by business to reduce the unit costs of production through expansion of output.
 - (c) Improvements in transportation technologies allowing for reductions in transport costs.
 - (d) Desire by governments to protect jobs of workers in strategic or sensitive industries.

5. Globalisation makes it easier for:
 - (a) A negative shock in one country to affect economic performance elsewhere.
 - (b) A national government to follow its own economic agenda.
 - (c) National governments to ensure income is divided between its citizens on an equitable basis.
 - (d) Inefficient producers to protect their economic position through barriers to competition.

6. Which of the following criticisms of Multinational Corporations has most validity?
 - (a) These corporations reduce the living standards of workers in the countries in which they operate.
 - (b) They force local people to work in poor conditions for low wages.
 - (c) They cause environmental damage in the countries in which they operate by over-riding local rules and regulations.
 - (d) The wealth created by these corporations is only slow to 'trickle-down' to the general population in the host economy.

7. In which of the 'freedoms' linked to the process of globalisation has there been LEAST progress?
- Freedom of movement of people.
 - Freedom of movement of savings.
 - Freedom of movement of goods.
 - Freedom of movement of foreign direct investment funds.
8. Globalisation will not be able to increase economic efficiency if:
- Countries specialise production based on their competitive advantage.
 - Savings are channelled to commercially proven investment opportunities.
 - Governments intervene in economies and prevent a free market allocation of resources.
 - There is extra competition between producers within the same industry through extra intra-industry trade.
9. Globalisation is a term used to describe the process that involves _____ levels of integration of national economies and the _____ of barriers to international trade, investment and financial flows. The missing words in the correct order are:
- increased, reduction.
 - increased, raising.
 - decreased, raising.
 - decreased, reduction.
10. Which of the following is a correct statement?
- High income advanced industrialised economies now account for a minority of total global trade and investment flows.
 - Due to the coupling or integration of national economies there is less likelihood of an economic problem in one country spreading to other countries.
 - Producers have established global production and distribution networks that can have a significant impact on individual national economies.
 - The standardisation and customisation of goods, and the establishment of global brands, has become an increasing feature of the world economy.
- Only I. and II. are correct
 - Only III. and IV. are correct
 - None are correct
 - All are correct

Question (a) Describe four factors that have supported the process of global interdependence. [8 marks] (b) Explain the economic effect of increased global interdependence. [12 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion



SYLLABUS CHECKLIST

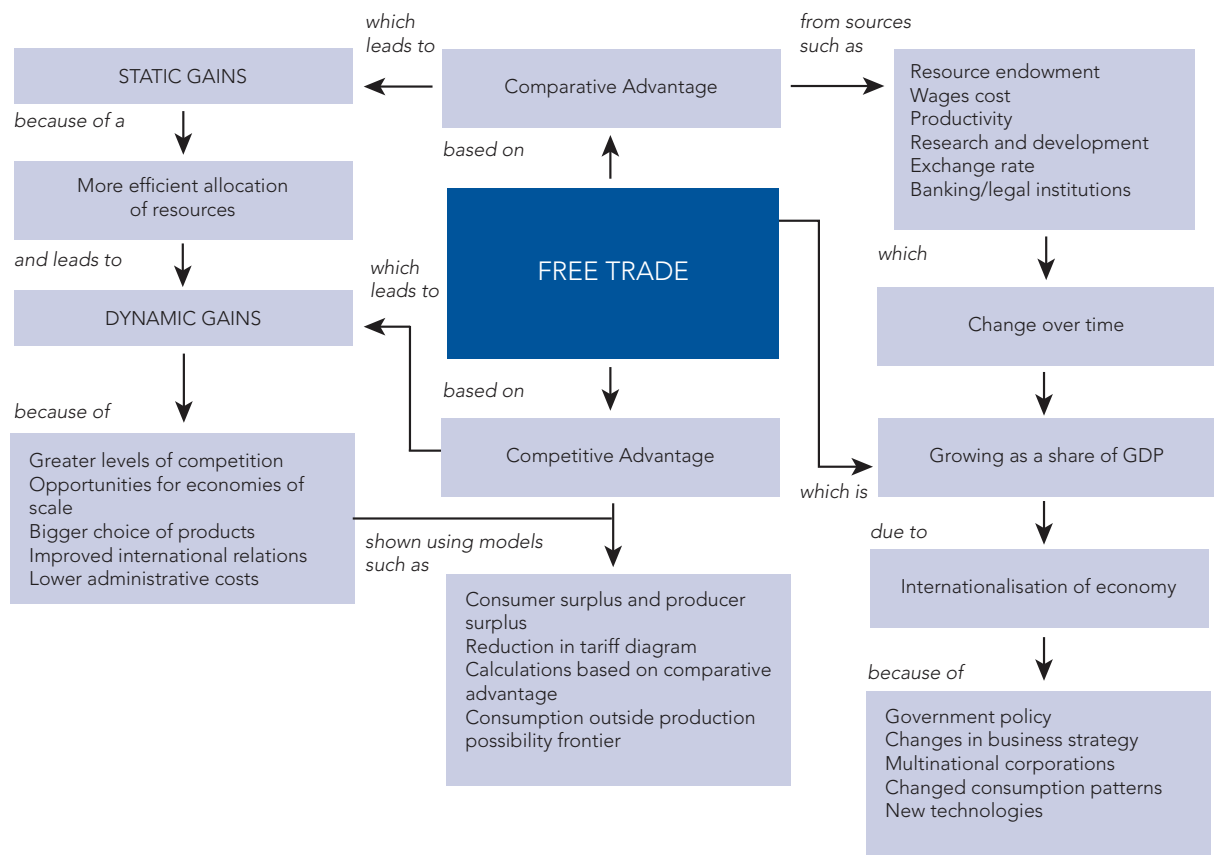
Topics covered in this chapter:

- ☐ Demonstrate the gains from specialisation and trade using the theories of absolute and comparative advantage, using the demand and supply model, the production possibility frontier model and/or the concept of opportunity cost
- ☐ Arguments for trade liberalisation.

OVERVIEW – 10 STEPS TO UNDERSTANDING FREE TRADE

1	Australia has built significant trade and investment links with other countries in the global economy. The process of internationalisation of the economy was given new impetus during the Hawke and Keating governments in the 1980s.
2	The gains from increased levels of international trade come from two sources; (a) static gains from a more efficient allocation of resources and (b) dynamic gains from a better productive use of resources (e.g. through increased competition and opportunities for economies of scale).
3	Different resource endowments (i.e. different quantities and quality of land, labour capital and enterprise) affect the ability of different countries to produce any given product. A country that can produce a product, such as a shirt, more efficiently than another country has an absolute advantage in the production of that product.
4	However, David Ricardo (1772-1823) realised that production should be concentrated in products where economies had a comparative advantage and not just an absolute advantage. There are a number of models, based on the Theory of Comparative Advantage, that can be used to demonstrate the static gains from trade that come from an improved allocation of resources.
5	The Law of Comparative Advantage explains how static trade gains arise. The Law of Comparative Advantage says that, where there are two countries producing the same two products, output can be increased by specialising in the production of the product that involves the lower level of opportunity cost. The extra output can then be traded in a way that benefits both countries.
6	There are at least four models that can be used to demonstrate the gains from trade. You are unlikely to need to use more than one model per question. The models are: Producer and Consumer surplus models to show increasing welfare as a result of trade; The 'Tariff Diagram' showing the welfare gain when tariffs are removed; Theory of Comparative Advantage calculations to show gains to production as a result of trade; Production Possibility Frontier diagrams to show that specialisation and trade allows members of society to consume beyond the production possibility frontier of their economy
7	Comparative advantage is only good for explaining the pattern of trade at a broad or general level. There are several reasons for believing that comparative advantage is too simple to be of much relevance to explaining the pattern of trade in a global economy.
8	Comparative advantage is a dynamic concept. There are several factors that affect comparative advantage over time.
9	In addition to the static gains from trade, there are important dynamic gains as well. Dynamic gains stem from factors such as economies of scale, a broader range of products to buy, improved international relations, increased competition and reduced administrative costs.
10	Dynamic gains explain why inter-industry trade dominates world trade (for example, countries may produce and export cars and also import cars)

Free trade mind map



2.1 SIGNIFICANCE OF TRADE

Why is international trade important?

Very early in history people discovered that living standards could be improved through trade. Regions or countries that embraced trade flourished while countries closed to trade stagnated. Trade has played a significant role in the development of Australia and is a powerful driver of growth.

Trade is important because:

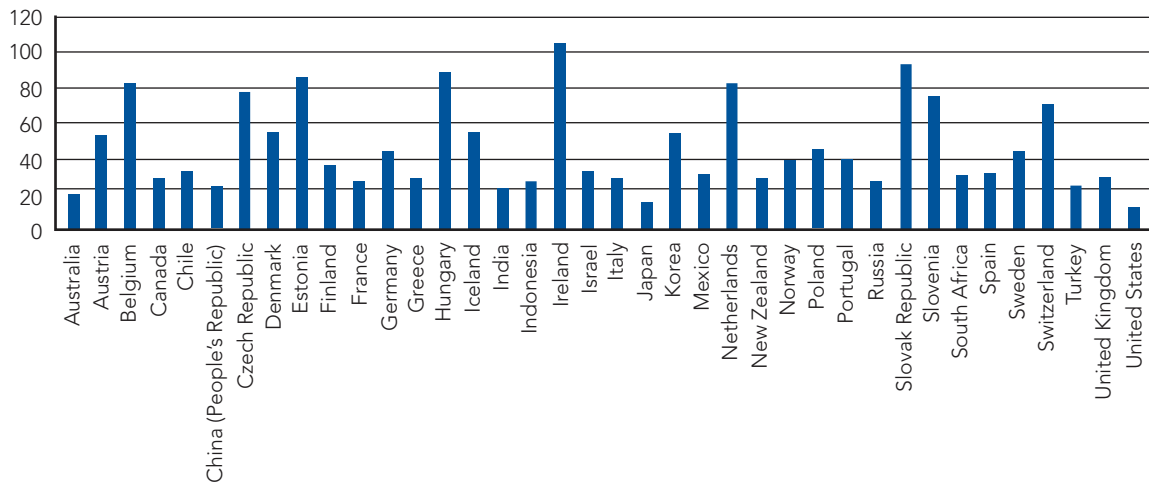
- **Resource allocation is improved:** Australian firms who are internationally competitive can expand production and sell their products in overseas markets. Australian consumers can buy products made at a lower opportunity cost in other countries.
- **Exports are an injection into the circular flow:** Exports inject spending into the economy and, as a component of aggregate expenditure, boost national output and income. Exports in 2013-14 were \$318.6b, about 20% of GDP. According to the Export Council of Australia 1 in 5 jobs in Australia are related to exports and people working in export industries are paid 60% more on average than other working Australians.

Traditionally Australia has been described as a small, open economy but both of these descriptions are not wholly accurate. With a GDP over AUD 1.5 trillion Australia ranks between 13th and 19th in the world, depending on the exchange rate in the comparison. This positions Australia roughly in the middle of other economically developed countries. Australia's Human Development Index is about 0.94, 2nd highest in the world indicating Australia has a high level of economic development.

In 2013-14 the two-way value of Australia's trade was \$647.4b, with exports accounting for \$318.6b of these and imports the remaining \$328.8b. Compared to other countries, Australia's share of world exports was 1.3%, the 21st largest in the world, and our share of imports was 1.4%, the 20th largest in the world. Given the Australia's economy is approximately the 14th

biggest in the world, this suggests that our trade intensity or openness is a little below the global average.

Exports as a percentage of GDP in OECD countries



Source: <http://data.oecd.org/tradeltrade-in-goods-and-services.htm>

Student Activity 2.1

1. The GDP of a hypothetical country is \$100b. The country's only industry is gas production. All the output from the gas industry is exported and the foreign currency earned from exporting is used to buy imports of an equal value.

(a) State two reasons why it might do this.

(b) What is the openness index or level of trade intensity for this economy? Is this country 'open' or 'closed'? Explain your answer.

2.2 THE GAINS FROM TRADE

What are the static and dynamic gains from trade?

The gains from trade can be divided into static and dynamic gains.

Static gains are caused by the improved allocation of resources that occurs as a result of increased international trade. Trade allows production to be concentrated in areas best suited to each country's economic resources or factor endowments.

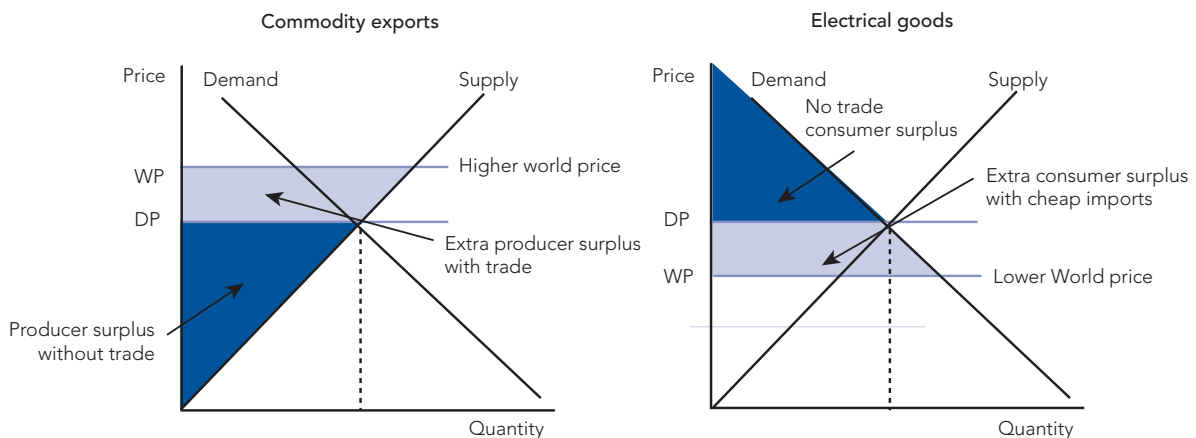
Dynamic gains add further to the economic growth and development in the economy. They build on the static gains, for example, by increasing the scale of production capacity, improving consumer choice and the introducing greater levels of competition.

Showing gains to consumer surplus and producer surplus in demand and supply diagrams

In the diagram that follows the left-hand pane 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 selling in the domestic market and receive the domestic price (DP).

The key to the diagram is the position of the world price (WP). The world price is the price producers in other countries are prepared to pay for these commodities. 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 have receive) increases as a result. Note, however, there is now reduced consumer surplus as prices rise in domestic markets when producers divert some of their goods to export markets but overall the extra producer surplus outweighs the loss of consumer surplus.



The diagram in the right hand pane shows the market for imported electrical goods. In this market the domestic price (DP) is higher than the price of electrical goods made overseas in China, the Republic of Korea and Japan, for example. Without trade, consumers are limited to buying from the domestic market and pay the domestic price (DP).

With trade, consumers can buy imports at lower prices because they are buying products made by more efficient producers.

Consumer surplus (the difference between market prices and the price they are willing to pay) increases as a result. Note that there is a lower producer surplus as domestic producers lose sales to the cheaper imports but overall the extra consumer surplus outweighs the loss of producer surplus.

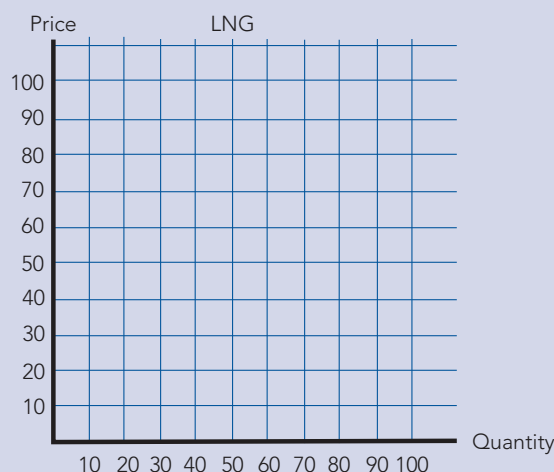
Is the real world as simple as this?

No, but that isn't the point. The model clearly shows how welfare can be increased as a result of trade, both by exporters, who gain access to a bigger market, and by consumers, who gain access to cheaper, more efficiently produced products. The model assumes that products in both countries are homogenous, e.g. commodities and electrical goods are produced to the same quality. There are also some extra costs associated with the structural adjustment from the contraction in industries unable to compete with the cheaper imports.

Student Activity 2.2

1. Describe the difference between static and dynamic gains from increased trade.

2. Xenophobia is a closed economy, i.e. it has no trade with other countries. Xenophobia only makes LNG and cars.



- (a) Calculate the following.
 - (i) The equilibrium price of LNG and cars.
 - (ii) The consumer, producer and community surplus in the LNG market.
 - (iii) The consumer, producer and community surplus in the car market.

Xenophobia embraces globalisation and opens the economy to international trade (and changes its name to Xenophile or X for short). X is efficient at producing LNG. The world price of LNG is \$70 and demand for X's LNG is assumed to be infinite at this price. X is inefficient at producing cars. The world price of a car is \$30 and the supply of cars from world markets is also assumed to be infinite at this price

- (b) Draw in the world price for LNG and cars.
- (c) Calculate the following:
 - (i) The new level of consumer, producer and community surplus in the LNG market.
 - (ii) The new level of consumer, producer and community surplus in the LNG market.
 - (iii) The value of LNG exports.
 - (iv) The value of car imports.
 - (v) Would the outcome in the car industry be improved by putting a \$10 tariff on imported cars?

- (d) What is the impact of international trade on community surplus or total welfare in X?
- (e) What is X's trade balance (exports minus imports)?

3. How did China get rich?

For most of the twentieth century China was poorer than Cameroon. In 1949 when the People's Republic of China came into being the world's largest country was torn by civil war and ruled by a communist dictator. In the late 1950's millions of people in China died of starvation as a result of failed government policies. In the 1960's the 'cultural revolution' destroyed the university system and forced millions of people to work in the countryside.

In 1976, when Mao Tse-Tung died, China was desperately poor. Few people had cars, telephones, electricity, running water or enough CR but after only a few years, under new leader Deng Xiaoping, the change in China's economy was incredible. Market incentives were introduced into agriculture. The government spent money on housing, education and transport infrastructure, but most significantly China became a player in the international economy. This meant that China could tap into the market for labour intensive goods such as clothes, toys and shoes. The foreign currency that these exports earned could be used to buy raw materials and new technology.

By inviting foreign investors into the economy China could learn modern production and business techniques – hugely important in a country that had been communist for decades. The arrival of foreign controlled businesses provided a challenge to Chinese business to become more efficient.

Extract adapted from 'The Underground Economist' by Tim Harford

- (a) What two aspects of 'globalisation' or 'internationalisation' are mentioned in the extract that contributed to China 'became a player in the international economy'?

- (b)

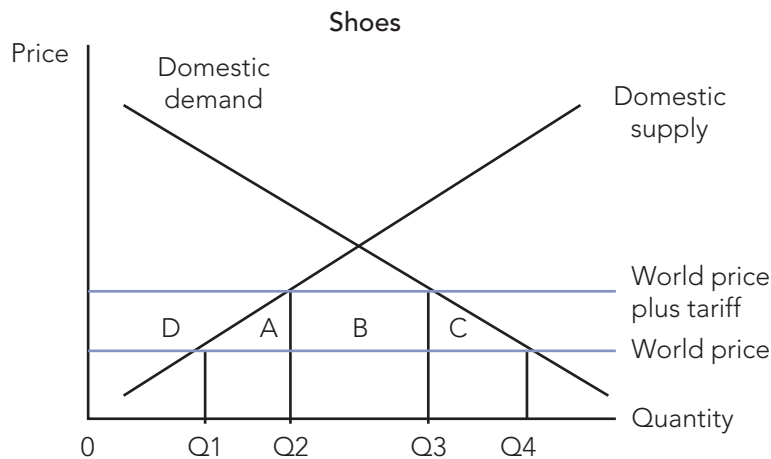
Draw a demand and supply diagram for toys showing how exporting toys increased total welfare (community surplus) in China

Draw a demand and supply diagram for 'raw materials' to show how importing raw materials increased total welfare or community surplus in China

2.3 USING THE TARIFF DIAGRAM

What is the tariff diagram?

A tariff is a form of protectionism. It is an import tax used by countries to reduce the level of imports. The tariff diagram will be reintroduced in the next chapter on protectionism but it is a useful way of showing that restricting trade using a tariff leads to welfare loss, or deadweight loss, and, hence, there is a welfare gain when tariffs are reduced or removed. The diagram uses several features of consumer surplus and producer surplus diagrams.



The diagram shows the domestic market in an economy for shoes. The demand and supply curves show the domestic demand and supply for shoes without international trade. The price of imported shoes is increased by a tariff, restricting shoe imports to Q2/Q3 (down from Q1/Q4 when there was no tariff).

The tariff has the following impact on the market:

- Consumer surplus is reduced (by areas D+A+B+C). Consumers buy fewer shoes (Q3 rather than Q4) and pay more for them.
- The government collects revenue from the tariff (Area B).
- Producer surplus is increased (Area D). Domestic producers sell more (Q2 rather than Q1) and at a higher price.
- Overall, the tariff has reduced welfare (Areas A+C).
- Removing the tariff has the opposite effect, showing that free trade increases welfare.

Is this a good model?

If you learn to draw this diagram you can also use it in questions about trade and protectionism. However, it only tells part of the story. It does not include the gains made by producers of other products in the economy from increased exports assuming the tariff reduction is part of a broader free trade deal with other countries. It also assumes that the revenue the government receives will be recycled into the economy and used to provide public and merit goods and services that increase social welfare.



Student Activity 2.3

1. Spot the difference! Complete the table, comparing the tariff and non-tariff situation in the market.

	With tariff protection	Without tariff
Price paid by consumers		
Quantity of goods bought by consumers		
Consumer surplus		
Producer surplus		
Government tariff revenue		
Community surplus		

2. Using the tariff diagram on the previous page, state what happens to the following when the tariff is removed.

(a)	The level of imports	
(b)	Producer surplus of domestic producers	
(c)	Consumer surplus	
(d)	Government revenue	
(e)	Community surplus or total welfare	

3. Draw a supply and demand diagram showing the domestic supply and demand for steel. Show how a tariff on cheaper imported steel will help protect jobs in the domestic steel industry. Show how removing the tariff on steel will increase overall welfare in the economy.

2.4 COMPARATIVE ADVANTAGE

What does this model involve?

This model involves calculating the production level of two products in two countries. These highly simplified calculations 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. a Chinese car is identical to a German car).
- There are no transport costs when products are moved between the countries.
- Consumers want to consume the extra output that trade produces.
- There are no political, social, cultural or other barriers to the trade taking place, and that the terms of trade are suitable for both countries.

What do the following terms mean?

Absolute advantage	A country can produce a product (e.g. machinery) more efficiently than the other country
Comparative advantage	Opportunity cost (in terms of lost output of the other product) is less than in the other country
The Law of Comparative Advantage	Global resources can be used more efficiently when countries specialise in producing the products in which they have a comparative advantage.
Terms of trade	The cost of one product in terms of the cost of another product (e.g. one car = two units of cheese)

Can you show me an example, please?

Two countries, Avalon and Baltia, make apples and amber. With half of their resources allocated to each product Avalon can produce 15 apples and 5 units of amber, and Baltia can produce 10 apples and 20 units of amber.

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

	Apples	Amber
Avalon	15	5
Baltia	10	20
Total	25	25

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

	Apples	Amber
Avalon	$5/15 = 0.33$	$15/5 = 3$
Baltia	$20/10 = 2$	$10/20 = 0.5$

For example, given the even allocation of resources, resources in Avalon are 3 times more productive when making apples than amber. So to make three more apples, Avalon would have to sacrifice 1 unit of amber. The 'other goes over rule' can be used if you don't want to think too much. For apples in Avalon the other figure (amber output = 5) goes over the level of apple output (15 apples) to give opportunity cost of $5/15$ or 0.33.

Step 3: Countries specialise in products where their opportunity cost is lowest. Avalon makes apples and Baltia makes amber.

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. 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 than before. If it isn't, the calculation of opportunity cost was probably wrong.

	Apples	Amber
Avalon	$(2 \times 15) = 30$	0
Baltia	0	$(2 \times 20) = 40$
Total	30	40

Step 5: Output has increased but for welfare to increase countries have to trade. Two further pieces of information are needed; the terms of trade and the 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. (Avalon needs a ratio between 0.33 and 3 and Baltia a ratio between 0.5 and 2). To keep it simple, pick terms of trade of, say, 1 apple = 1 unit of amber. 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. Avalon exports 15 apples). Show final consumption pattern after trade. Check that both countries are better off. Check no one is worse off.

	Apples	Amber
Avalon	$30 - 15 = 15$	$0 + 15 = 15$
Baltia	$0 + 15 = 15$	$40 - 15 = 25$
Total	30 (was 25 before trade)	40 (was 25 before trade)



Student Activity 2.4

- The table shows the production of swords and gold in Camelot and El Dorado when they both use half of their resources to produce each product.

	Output of swords	Output of gold
Camelot	100	100
El Dorado	50	200
Total	150	300

- Complete the table.

	Opportunity cost of 1 sword in terms of lost gold	Opportunity cost of gold in terms of lost swords
Camelot		
El Dorado		

- Calculate production levels after specialisation according to comparative advantage.

	Output of swords	Output of gold
Camelot		
El Dorado		
Total		
Gain in total output		

- What assumptions have made in making these calculations? What must be true before both Camelot and El Dorado can gain from trade?

2. Assume Vietnam and Japan can produce the following quantities of coffee and microwave ovens when they both use half of their resources to make each product.

	Coffee	MW's
Vietnam	24	6
Japan	9	18
Total	33	24

- (a) Show the pattern of production in each country after specialisation and trade based on comparative advantage.

	Coffee	MW's
Vietnam		
Japan		
Total		

- (b) What is the opportunity cost of making 1 extra microwave in Vietnam and 1 extra microwave in Japan?

- (c) Why is opportunity cost relevant when considering the gains from trade?

- (d) Suppose Japan exports 6 units of MW's to Vietnam at terms of trade 4 units of coffee = 1 unit of microwaves ($4C = 1MW$). Show the level of consumption in the two countries after this trade.

	Coffee	MW's
Vietnam		
Japan		
Total		

- (e) Which country has gained from this trade? Why has this happened?

- (f) Suppose instead that Japan exported 10 units of MW's to Vietnam at terms of trade 2 units of coffee = 1 unit of microwaves ($2C = 1MW$). Show the level of consumption in the two countries after this trade.

	Coffee	MWs
Vietnam		
Japan		
Total		

- (g) What has happened to the gains from trade? State why.

- (h) Suppose finally that Japan exported 18 units of MW's to Vietnam at terms of trade 0.5 units of coffee = 1 unit of microwaves ($0.5C = 1MW$). Show the level of consumption in the two countries after this trade.

	Coffee	MWs
Vietnam		
Japan		
Total		

- (i) Why have all the gains now gone to Vietnam?

3. Assume the table shows production levels of toys and raw materials in China and Australia when both countries use half of their resources to produce each product. Assume also there are constant returns to scale (i.e. doubling resources leads to double the output).

	Toys	Raw materials
China	64	32
Australia	16	96
Total	80	128

- (a) In which product does China have a comparative advantage (and Australia a comparative disadvantage)? Explain how you determined this.

- (b) In which product does Australia have a comparative advantage (and China a comparative disadvantage)? Explain how you determined this.

- (c) Assume China and Australia specialise in making the products in which they have a comparative advantage (i.e. China only makes toys and Australia only produces raw materials). Use the table below to show the new pattern of production.

	Toys	Raw materials
China		
Australia		
Total		

- (d) At this stage China has all the toys and Australia has all the raw materials. Assume China exports 120 units of toys to Australia for 120 units of raw materials. (The terms of trade are, therefore $1T = 1RM$) Show the availability of the two products in each country after this trade.

	Toys	Raw materials
China		
Australia		
Total		

- (e) If the terms of trade changed to $1T = 0.75RM$ ($1.33T = 1RM$) and China continued to export 120 units of toys to Australia what would be the availability of the two products in each country?

	Toys	Raw materials
China		
Australia		
Total		

- (f) Summary: (i) State why total production increases when countries specialise and trade? (ii) What determines how the gains from trade are distributed?

2.5 WHAT HAPPENS WHEN ONE COUNTRY HAS AN ABSOLUTE ADVANTAGE IN BOTH PRODUCTS?

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.

Can you show me another example, please?

Two countries, Valhalla and Shangri-La, have equal amounts of resources. They make only shields and chocolate bars. With half their resources on each product Valhalla can produce 15 shields and 5 chocolate bars, and Shangri-La can produce 20 shields and 20 chocolate bars.

Step 1: Put the data in a table.

	Shields	Chocolate Bars
Valhalla	15	5
Shangri-La	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.

	Shields	Chocolate Bars
Valhalla	$5/15 = 0.33$	$15/5 = 3$
Shangri-La	$20/20 = 1$	$20/20 = 1$

Valhalla specialises in shields and Shangri-La specialises in chocolate bars.

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

	Shields	Chocolate Bars
Valhalla	30	0
Shangri-La	0	40
Total	30	40

To overcome the problem, follow the following rules:

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

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

	Shields	Chocolate Bars
Valhalla	30	0
Shangri-La	$0 + 5$	$40 - 5 = 35$
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 shields = 1 chocolate bar). Use the amount of exports and/or imports given in the question or choose a sensible amount yourselves (e.g. Shangri-La exports 7.5 chocolate bars). Show final consumption pattern after trade. Check that both countries are better off. Check no one is worse off.

	Shields	Chocolate Bars
Valhalla	$30 - 15 = 15$	$0 + 7.5 = 7.5$
Shangri-La	$5 + 15 = 20$	$35 - 7.5 = 27.5$
Total	35	35

Study point – 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

Student Activity 2.5

1. The table shows the output of honey and fruit that can be produced in Thule and Agartha when each country allocated 50% of their resources to each product.

	Honey	Fruit
Thule	20	10
Agartha	40	80
Total	60	90

- (a) Show how, despite Agartha having an absolute advantage in the production of both products, both citizens in both countries can benefit from trade when the terms of trade are 1 unit of honey = 1 unit of fruit and Thule exports 20 units of honey to Thule.

	Honey	Fruit
Thule		
Agartha		
Total		

- (b) Over what range of terms of trade will trade benefit both countries?

2.6 WHAT HAPPENS IF THE DATA YOU ARE GIVEN IS ABOUT INPUTS RATHER THAN OUTPUT?

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

Sometimes the information given in a question focuses on the resource inputs needed to produce 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.

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
Thailand	$60/15 = 4$	$60/5 = 12$
Australia	$60/2 = 12$	$60/10 = 5$
Total production	16	17

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

	Opportunity cost of 1 computer	Opportunity cost of 1 wheat
Thailand	3 wheat (12/4)	0.33 computers (3/12)
Australia	0.42 wheat (5/12)	2.4 computers (12/5)

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).

Step 3: Calculate the level of production of the two products that is possible with specialisation.

	Production of computers in 120 hours	Production of wheat in 120 hours
Thailand	0	24
Australia	24	0
Total	24	24

Step 4: If Thailand exports 10 computers to Australia at terms of trade 1 computer = 1 unit of wheat, consumption will be as follows:

	Production of computers in 120 hours	Production of wheat in 120 hours
Thailand	$0 + 10 = 10$	$24 - 10 = 14$
Australia	$24 - 10 = 14$	$0 + 10 = 10$
Total	24	24

Student Activity 2.6

1. The data shows time taken by Captain and Hook to make 1 hut and catch 1 fish.

	Time taken to make 1 hut	Time taken to catch 1 fish
Captain	20	10
Hook	45	15

- (a) What is the opportunity cost, in terms of lost fish, of Captain making 1 more hut?

- (b) What is the opportunity cost, in terms of lost fish, of Hook making 1 more hut?

- (c) Assuming both Captain and Hook work for 180 hours in each area calculate their output before specialisation.

	Hut production in 180 hours	Fish output in 180 hours
Captain		
Hook		
Total		

- (d) Show that they can increase overall hut production without sacrificing any fish through specialisation according to the theory of comparative advantage.

	Hut production	Fish output
Captain		
Hook		
Total		

2. The data in the table is the hours needed to make 1 bicycle and 1 kilogram of butter in the Australia and China.

	Hours needed to make 1 bicycle	Hours needed to make 1 kg of butter
Australia	15	5
China	4	2

- (a) In which products does China have an absolute advantage?

- (b) Calculate the opportunity cost of making 1 bicycle and 1 kg of butter in each country.

	Opportunity cost of 1 bicycle	Opportunity cost of 1 kg of butter
Australia		
China		

- (c) Therefore, China should specialise in _____ and Australia should specialise in _____

- (d) Calculate the level of production of the two products that is possible in the two countries in 120 hours without specialisation when the time is divided equally between the two products.

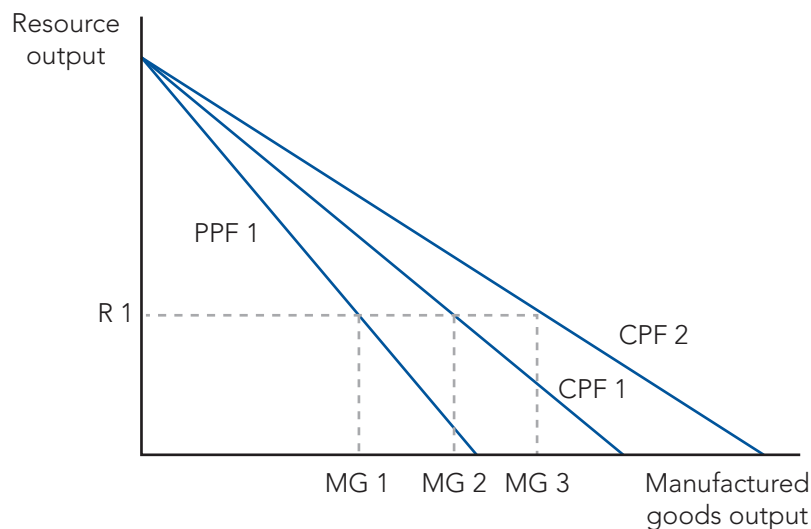
	Production of bicycles in 60 hours	Production of butter in 60 hours
Australia		
China		
Total production		

- (e) Show the pattern of production after specialisation assuming bicycle production rises to 25 and butter output rises to 10kg.

	Production of bicycles	Production of butter
Australia		
China		
Total production		

2.7 PRODUCTION POSSIBILITY FRONTIER DIAGRAMS

Rather than calculating the gains from trade using production tables, the gains can be illustrated using a production possibility frontier diagram to demonstrate that trade allows a country to consume outside its production possibility frontier. This is shown in the following diagram.



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 resource production and exports the resources in exchange for imported manufactured goods at a cost lower than the opportunity cost of making them itself, people in the economy can effectively consume at levels outside the limits of PPF1.

If the terms of trade move further in their favour (as happened in the mid-2000s in Australia) even more manufactured goods can be bought with R1 level of resource exports (level MG3).

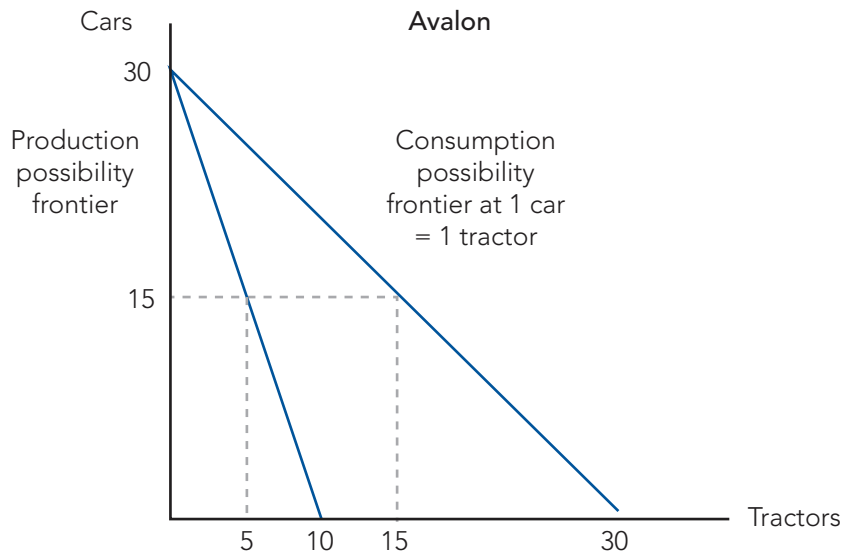
Can you show me an example using output data?

The table shows the output of cars and tractors in Avalon and Baltia.

	Cars	Tractors
Avalon	15	5
Baltia	10	20
Total	25	25

The production possibility frontier will have car output on one axis and tractor output on the other axis. The total number of cars Avalon can produce is 30 (if it can produce 15 with half of its resources) and the total number of tractors Avalon can produce is 10. Baltia could produce 20 cars and no tractors or no cars and 40 tractors.

It is simplest to show the gains for just one country at a time. The PPF diagrams gets messy otherwise.



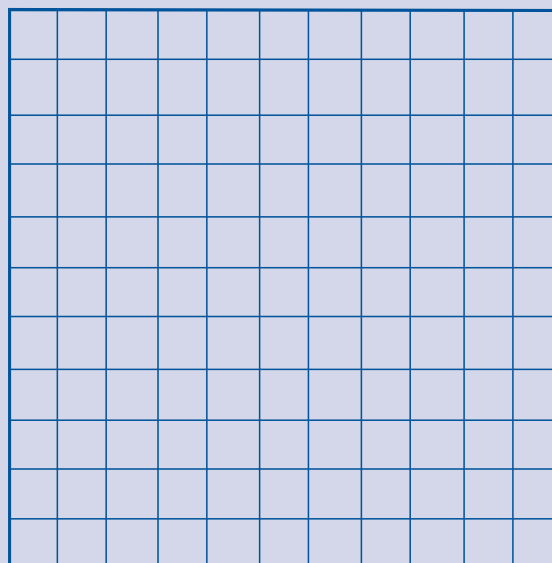
Avalon specialises in car production, producing 30 cars and 0 tractors.
 They export 15 cars and import 15 tractors (at terms of trade 1 car = 1 tractor)
 Consumption of tractors rises in Avalon without loss of any cars

Student Activity 2.7

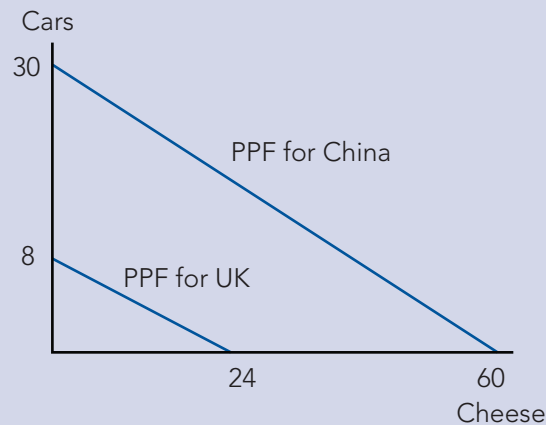
1. Assume Vietnam and Japan can produce the following quantities of coffee and microwave ovens when they each use half their resources for each product.

	Coffee	MW's
Vietnam	24	6
Japan	9	18
Total	33	24

Draw a PPF diagram to show that both countries can consume more if they specialise and trade at terms of trade $2C = 1MW$.



2. The diagram shows the PPF for China and the UK when they use 120 production hours to make cars and cheese.



	Hours needed to make 1 car	Hours needed to make 1 ton of cheese
UK	15	5
China	4	2

- (a) What is the gradient of the Chinese PPF?
-
- (b) What is the opportunity cost of 1 car in China (in terms of lost cheese)?
-
- (c) If China is to gain from trade, China must get _____ (more / less) than 2 tons of cheese for each car.
- (d) Sketch on the diagram the consumption possibility line for China if they are able to get 2.5 tons of cheese per car.
- (e) What is the gradient of the UK PPF?
-
- (f) What is the opportunity cost of 1 cheese in the UK (in terms of lost cars)?
-
- (g) If UK is to gain from trade, UK must get _____ (more / less) than 0.33 cars for each ton of cheese.
- (h) Sketch on the diagram the consumption possibility line for UK if they are able to get 0.4 cars per ton of cheese.
-
- (i) For both countries to gain from trade, the terms of trade must lie between what range of opportunity cost?
-

2.8 COMPARATIVE ADVANTAGE AND THE PATTERN OF TRADE

Does comparative advantage really determine the pattern of international trade?

The principle of comparative advantage only influences 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's commodity exports to China and China's manufacturing goods exports to Australia. But remember there was a longish list of assumptions listed at the start of this comparative advantage section. To recap, these included:

Some important costs are ignored: By not including transport costs and other negative externalities associated with pollution, the benefits of specialisation are exaggerated

Diminishing returns: The output from many resources is subject to diminishing returns that make production possibility frontiers non-linear. This means that, after some specialisation, there is an increasing level of opportunity cost associated with further specialisation.

Structural unemployment: Resources, particularly labour resources, may not be as mobile as assumed in theory. Rather than specialising production, trade may simply cause some structural unemployment.

Relative prices and real exchange rates: These are not taken into account in the simple theory. 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 several 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-goods/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.

Given that it has some broad relevance, what factors affect comparative advantage?

The following factors may be important in determining whether or not firms in an industry hold a comparative advantage over producers in other countries.

Resource endowment: The quantity and quality of factors of production available to producers clearly influence their ability to supply. There may be, for example, good beaches and scenery to support a tourism industry.

Wage costs and the labour supply: Countries that have abundant low-cost labour resources are suited to volume production of manufacturing products, for example, electronics and vehicle production in China and the Republic of Korea.

Ability to benefit from economies of scale: Industries where economies of scale have been achieved may be able to operate more efficiently than where production is on a smaller scale.

Research and development: Research & development, innovation and invention can make an industry competitive, e.g. the computer industry in Silicon Valley in California.

Exchange rates: A depreciation in a country's exchange rate will make it easier to sell exports at a competitive price. For example, Australia's manufacturing industry will be more competitive following the fall in the value of the Australian Dollar in 2014-15.

Free trade agreements and protectionism: A free-trade agreement, such as those signed by Australia with Japan, the Republic of Korea and China in 2014 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 create an artificial comparative disadvantage in an industry.

Non-price competitiveness: The non-price competitiveness of producers including factors such as product design, innovation, reliability, after-sales support and quality of service affect the overall competitiveness of a product.

Institutions: Banking systems are needed to provide capital for investment and export credits and legal systems help to enforce contracts. Political institutions and the stable government may contribute to a firm's competitiveness.

Comparative advantage can and does change over time. It 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.

Student Activity 2.8

1. Identify three important Australian exports. Suggest the likely source of Australia's comparative advantage in the production and sale of these products.

2. Identify three important Australian imports. Suggest the likely source of Australia's comparative disadvantage in the production and sale of these products.

2.9 DYNAMIC GAINS FROM TRADE

What apart from comparative advantage generates gains from trade?

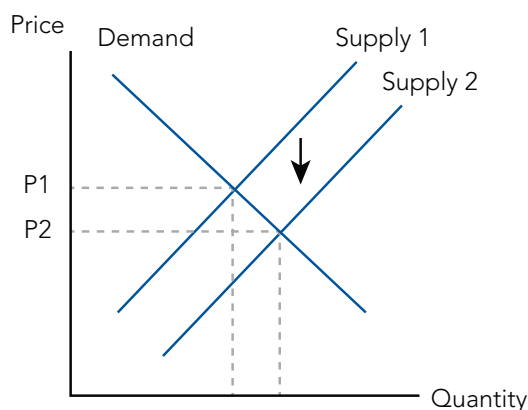
In addition to the static gains associated with a more efficient allocation of resources, there are a number of dynamic gains that may influence the overall gains from trade. Even where there is no comparative advantage, trade can generate dynamic gains.

What is the source of these dynamic gains from trade?

Dynamic gains from trade are usually as important, if not greater than, the static comparative advantage based gains. 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 (achieve learning economies) in the production of that product. 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 also 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.



Competition from efficient producers overseas may spur local producers to increase their efficiency.

An increase in efficiency reduces costs and hence shifts the domestic supply curve down.

This increases or restores producer surplus.

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 people 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 trades. 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 exporter. Firms do not have the expense of checking and complying with so many rules and regulations when they trade.

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, reduces the monopoly power of each separate producer.

Student Activity 2.9

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

2. How do consumers benefit from greater competition between producers?

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

SO YOU NOW THINK YOU UNDERSTAND FREE TRADE

Two reasons why trade is important 1 2	Rules for calculating opportunity cost Output data Input data
Australia's trade intensity % Is it high or low?	Rules for double advantage examples 1 2 3
Two areas of gains from trade 1 2	Rule for dealing with input data
Model 1 – Consumer and Producer surplus Sketch gains from cheaper imports	Model 4 – PPF diagrams Sketch one to show gains
Sketch gains from more exports	Seven problems with comparative advantage 1 2 3 4 5 6 7
Model 2 – Tariff diagram Sketch diagram	Seven factors affecting comparative advantage 1 2 3 4 5 6 7
Where is the welfare gain?	Five areas of dynamic gains from trade 1 2 3 4 5
Model 3 – Comparative Advantage Define absolute advantage Define comparative advantage	
Five key assumptions about calculations 1 2 3 4 5	

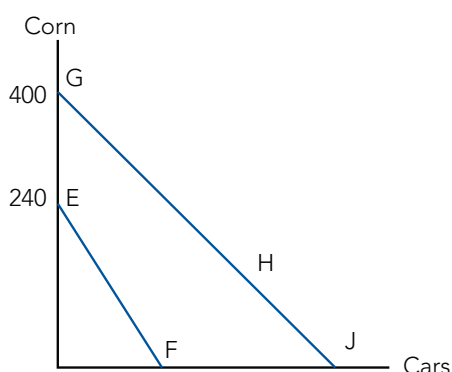
REALITY CHECK

Chapter 2: Free Trade

Questions 1, 2 and 3 refer to the data in the table that shows output levels in two economies when half the resources are used to make each product.

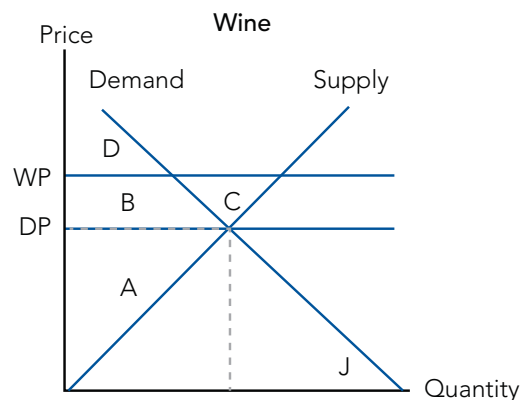
	Corn	Cars
Country R	120	10
Country S	200	30

- What is the opportunity cost of making a car in each country?
 - 12 units of corn in Country R and 15 units of corn in Country S
 - 12 units of corn in Country R and 20 units of corn in Country S
 - 10 units of corn in Country R and 30 units of corn in Country S
 - 200 units of corn in Country R and 120 units of corn in Country S
- Which of the following is a correct statement?
 - Country R has an absolute advantage in the production of both products
 - Country R has a comparative advantage in the production of corn
 - Country S has a comparative advantage in the production of both products
 - Country S has a comparative disadvantage in the production of cars
- Assuming constant returns to scale and appropriate terms of trade, consumption of both products can be increased through trade if:
 - Country R completely specialises in producing corn and exports some of their corn while Country S continues to make both products and exports some of their cars
 - Country R completely specialises in producing cars and exports some of their cars while Country S continues to make both products but exports some of their corn
 - Country R completely specialises in producing corn and exports all of their corn while Country S completely specialises in producing cars and exports all of their cars
 - Country R makes both corn and cars but only exports cars and Country A makes only corn and exports some of their corn
- The production possibility frontier illustrates the data in the table above. Which one of the following is a correct statement?
 - Country R should produce at Point F and after trade will be able to consume outside the production possibility frontier EF
 - Country R should produce at Point E and after trade will be able to consume outside the production possibility frontier EF
 - Country S should produce at Point G and after trade will be able to consume outside the production possibility frontier GJ
 - Country S should produce at Point H but after trade will only be able to consume inside the production possibility frontier GJ



5. 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

Questions 6 and 7 refer to the diagram that shows demand and supply in the Australian wine market. DP indicates the equilibrium price without trade and WP indicates the price available to producers when they have access to export markets.



6. Which of the following changes occur as a result of exporting wine?
- (a) Producer surplus increases by Area B
 - (b) Consumer surplus decreases by Area B + C
 - (c) Producer surplus increases by Area C
 - (d) Community surplus or total welfare increases by Area C
7. Which of the following occurs when producers begin exporting wine?
- (a) Domestic consumers pay less for their wine
 - (b) Domestic producers have to shift their supply curve downwards to stay competitive
 - (c) More workers will be employed in the wine industry
 - (d) Deadweight loss increases
8. Goods and services produced domestically, but sold to other countries are called:
- (a) Imports
 - (b) Exports
 - (c) Merit goods
 - (d) Net exports
9. 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 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.

10. Which of the following gives Australia a competitive advantage over the Republic of Korea in the production of dairy products such as milk and butter?
- (a) Australia's climate, compared to Korea's climate, is more suited to dairy production
 - (b) Australian producers can benefit from economies of scale that are not available in Korea
 - (c) The latest agricultural research and technology is not available in Korea
 - (d) Australian dairy producers receive an export subsidy from the Government

Question Describe how countries gain from international trade. [14 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion



SYLLABUS CHECKLIST

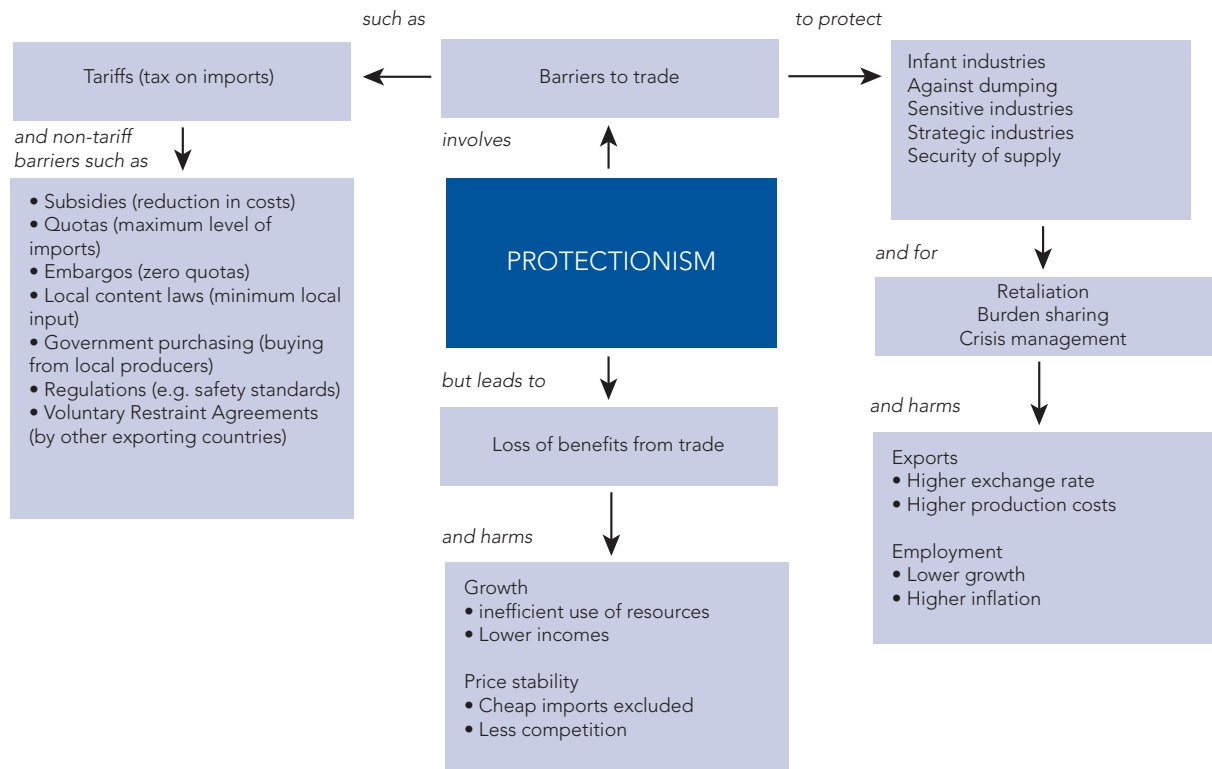
Topics covered in this chapter:

- ☐ Identify different forms of protection
- ☐ Demonstrate the operation of tariffs and subsidies as forms of protection and their effects on trade and market efficiency
- ☐ Arguments against trade liberalisation.

OVERVIEW – 10 STEPS TO UNDERSTANDING PROTECTIONISM

1	Although most countries generally welcome the economic benefits created through international trade they also control the level of trade for certain industries or products.
2	The barriers or policies used to control trade include the use of tariffs, subsidies and other non-tariff barriers.
3	A tariff is a form of tax levied on imported products.
4	A subsidy is a payment by the government to domestic producers of a product.
5	Unregulated free trade may create situations of market failure and a loss of efficiency. Market failures associated with freer international trade include: Increased structural unemployment as a result of changing patterns of output and immobility of resources. An unfair distribution of the incomes created through trade. Negative consumption and production externalities. Increased opportunities for monopoly power.
6	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 permanent.
7	Infant industries are new industries initially operating on a small scale but that have the potential to grow and become efficient over time as long as they are protected from foreign competition during their expansion phase.
8	Strategic industries are industries that are vital to an economy. Ensuring these industries continue to operate in an economy is a form of insurance against trade interruptions or other geopolitical issues.
9	Sensitive (or iconic or emblematic) industries are those that command a special place in the nation's psyche because, for example, they create high levels of employment, have a significant regional presence, produce a traditional product or provide social or broader economic benefits.
10	Finally governments may adopt a 'burden sharing' approach to trade and protectionism. While large numbers of people in an economy benefit from increased levels of trade to a modest extent, a small number of people may suffer considerable hardship as a result of the structural change and unemployment caused by the increased level of imports. It is worth these people lobbying hard to save their jobs because they have a lot to lose and they are not likely to face much opposition from others who only have a little to lose if trade is restricted.

Protectionism mind map



3.1 DIFFERENT FORMS OF PROTECTIONISM

Does Australia support free trade?

Although Australia is a major supplier to markets in the Asia-Pacific region and has strong trade ties with the rest of the world, the Australian Government also has a number of policies in place to protect domestic industries, to prevent imports of harmful and dangerous goods and to assist Australian businesses involved in international trade.

What kind of barriers do governments use to control trade?

Protectionist barriers are designed to reduce imports and may be classified as either:

Tariff barriers: A tariff is a form of tax levied on imported products. Imports are reduced because tariffs increase the price of imported products relative to domestically produced products.

Non-tariff barriers: There are many other barriers that can be used to restrict imports, other than tariffs.

What are these non-tariff barriers?

Production subsidies: Government subsidies are paid to domestic producers to reduce overall production costs. The subsidy allows local producers to reduce the price of their product relative to the price of imported products.

Quotas: 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.

Voluntary export restraint agreements (VERs or VRAs): VERs or VRAs are agreements between exporters and importers to limit on a voluntary basis the quantity of exports (and hence imports) to be sold over a given period of time. Exporters may volunteer to behave in this restrained way to avoid harsher measures being introduced or to avoid a fall in the value of the price of their products.

Administrative requirements, safety rules and design specifications: 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: Exchange controls restrict imports through the Government withholding access to the foreign currency needed to pay for imports. 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 in the economy and they can restrict imports by buying locally made items as a matter of policy, even if imported products (e.g. submarines) may offer better value for money

Local content laws: The Government can regulate that a certain percentage of the total value of the product must be added by local producers, e.g. 40% of the spending on a music concert must create incomes for local people.

One or more measures can be combined to create more flexible and effective trade barriers. For example, Tariff-Rate Quotas (TRQs) are essentially two-tier tariffs, with one tariff rate being applied to imports within a 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 can be combined with local content laws. For example, Australian carmakers (a dying breed) face an 85% local content target for car components. The remaining components can be imported tariff free, but any excess imports of components are subject to a tariff.

Student Activity 3.1

1. Define the term 'protectionism'.

2. Complete the following table.

Protectionist Measure	Brief description	Example

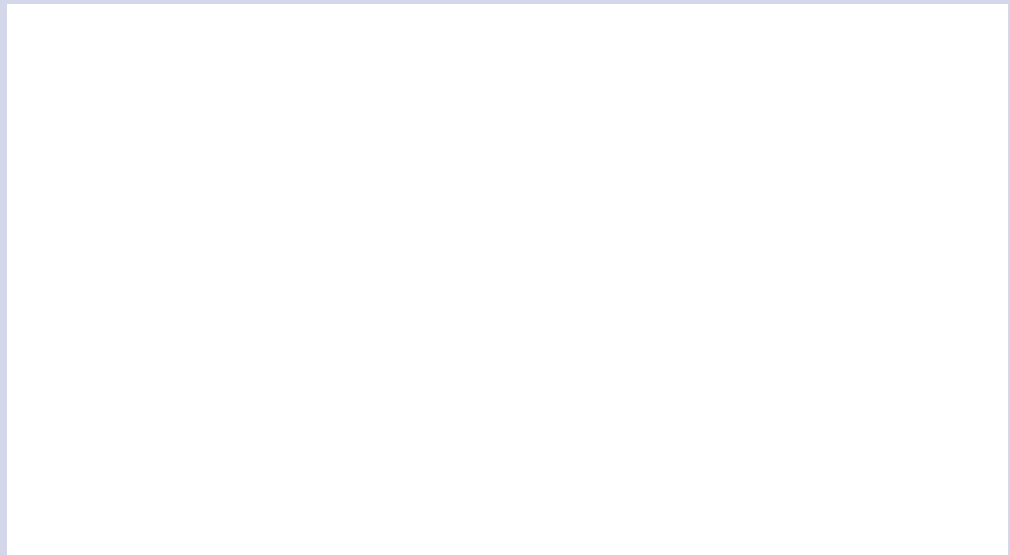
3. MINI CASE STUDY – BANANAS

All fresh bananas in Australia are grown in Australia – no fresh banana imports are allowed. Even after a cyclone destroyed three-quarters of the nation's banana crop in February 2011 there was no relaxation of the zero quota for banana imports. As a result the supermarket price of bananas reached \$15 per kilo for several months. Australia doesn't allow banana import from countries such as the Philippines because of the disease threat they pose to local production but the Australian Department of Agriculture says this threat can be eliminated if appropriate measures are taken.

- (a) Why do banana growers need protection from imported bananas?

- (b) What kind of protectionist measure is used to prevent the importation of fresh bananas?

- (c) Draw a demand and supply diagram to illustrate why banana prices rose after the cyclone.



- (d) What other forms of protectionism could provide support for banana growers?

4. MINI CASE STUDY – BEEF EXPORTS

Australia's beef exporters face trade barriers in a number of countries. This border protection commonly takes the form of tariffs and/or tariff rate quotas. For example, Canada has a 35,000 tonne beef import quota per calendar year for imports from Australia. There are no tariffs levied on in-quota imports but a 26.5% tariff is levied on above-quota imports. The European has different quotas for grain-fed and grass-fed beef. There is a simple tariff free quota of 48,200 tonnes during the tax year for grain-fed beef and a quota of 7,150 tonnes for grass-fed beef supported by a 20% in-quota tariff and a complex 12.8% + €141 to €304 per 100 kg tariff on grass-fed beef.

- (a) What kind of protectionist measure is used by Canada and the European Union to restrict beef exports from Australia?

- (b) Suggest other protectionist measures that these countries could use to restrict imports of Australian beef.

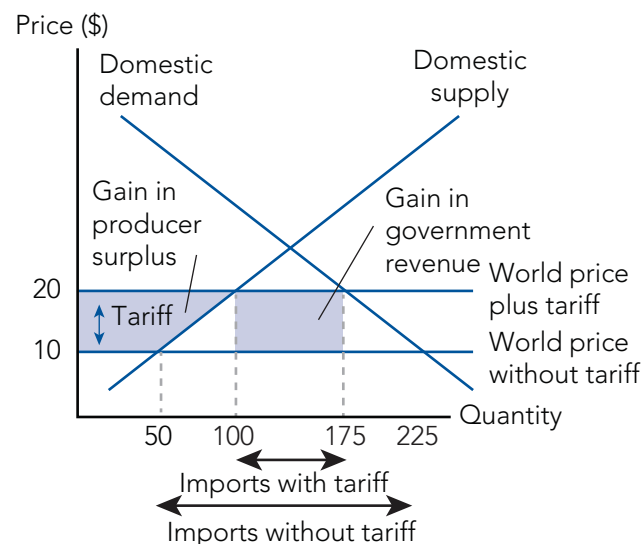
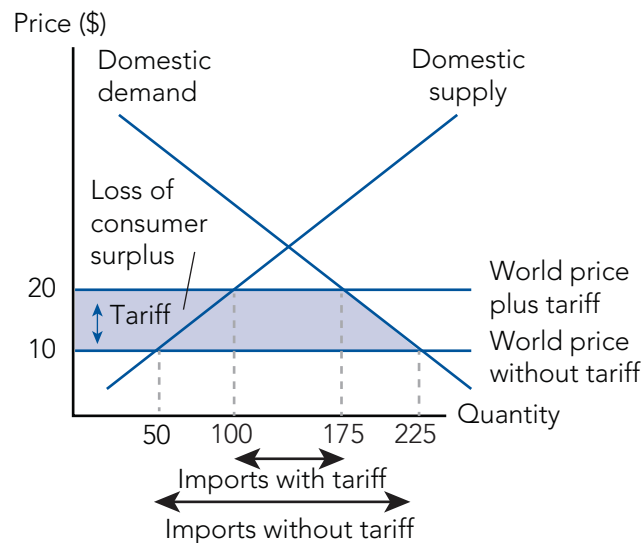
- (c) Outline two problems protectionism may create for an Australian beef exporter.



3.2 TARIFFS

What is the impact of a tariff on a market?

A tariff effectively raises the world price of imports. In the diagrams below the price of imports has risen from \$10 to \$20 as a result of \$10 tariff.



The results of the tariff are:

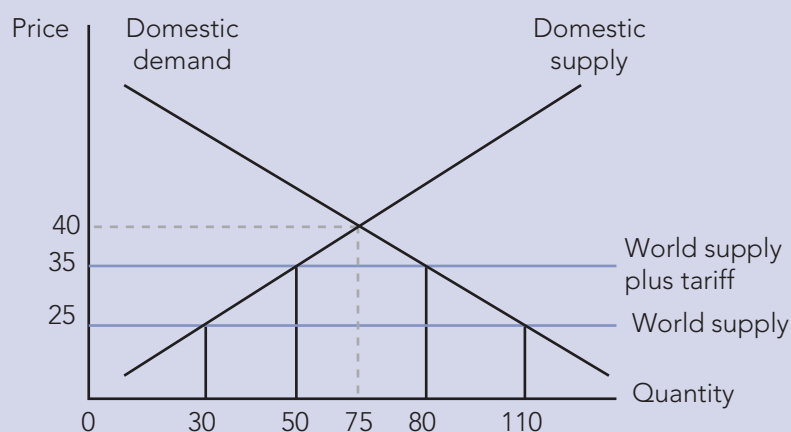
- A loss of consumer surplus shown as the full shaded trapezium in diagram in the left-hand pane. Consumers buy less (225 units down to 175 units) and pay higher prices for the 175 units they do continue to buy.
- A rise in producer surplus, shown in the right hand pane. Domestic producers are being protected and will now be competitive for sales of 100 units rather than just 50 units.
- There is some revenue from the tariff for the Government shown as the shaded rectangle in right hand pane.
- Net loss of welfare (or deadweight loss) shown as the area of the two small triangles in the right hand pane.
- Imports have been reduced from 175 units ($225 - 50$) to 75 units ($175 - 100$)

There may be a dynamic effect to take into account as well. Reducing competition from imports may allow domestic producers to become complacent and to drift into inefficient practices. The rise in prices may contribute to inflation. The domestic supply could shift up and to the left.

Student Activity 3.2

1. Use the diagram below to calculate the following:

a)	The size of the tariff (in \$ or %)	
b)	The free-trade level of imports	
c)	The loss of consumer surplus	
d)	The gain in producer surplus	
e)	The government's tariff revenue	
f)	The reduction in the level of imports	
g)	The deadweight loss caused by the tariff	
h)	The size of the tariff needed to eliminate imports	



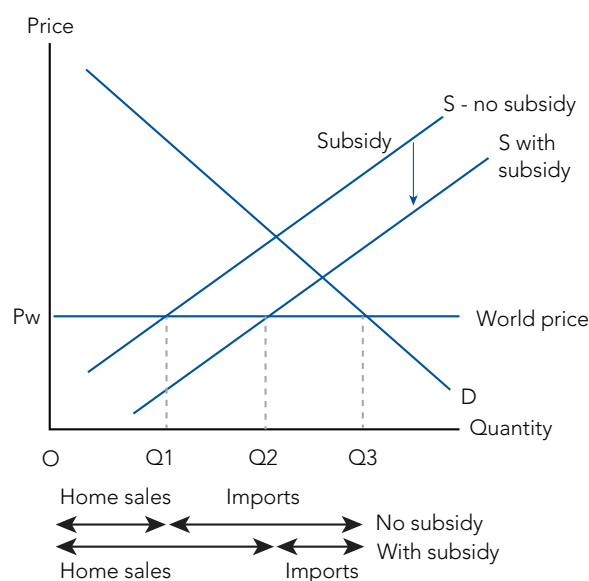
2. Sketch a tariff diagram for a product where demand and supply are price elastic. Comment on the effectiveness of the tariff in this situation.

3.3 WHAT IS A SUBSIDY?

Government subsidies are paid to domestic producers to offset some of their production costs. They increase domestic producers' willingness to supply, and cause the supply curve to shift down by the amount of the subsidy.

How does a production subsidy reduce imports?

- The subsidy allows local producers to reduce their prices relative to the price of imported products.
- Without a subsidy domestic producers may find it difficult to compete with imported products. In the diagram below, with the price of imports at P_w (world price), domestic suppliers become uncompetitive at quantity OQ_1 . The rest of the market is supplied by imports ($OQ_3 - OQ_1$).
- With the subsidy domestic producers stay competitive until output OQ_2 . They are able to sell OQ_2 and imports are reduced to $OQ_3 - OQ_2$.

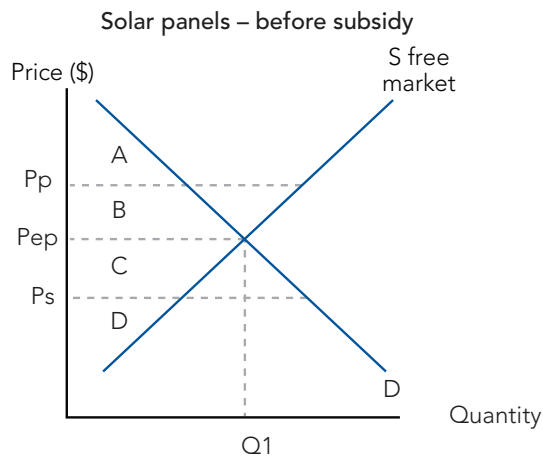


- Again, there may be dynamic effects to consider. Domestic producers may become slack and inefficient if they are confident they are to get a government subsidy. This would cause the domestic supply curve to move up and to the left. However, there may be positive externalities created by the government support such as protection of employment in a region or the need for security of supply.

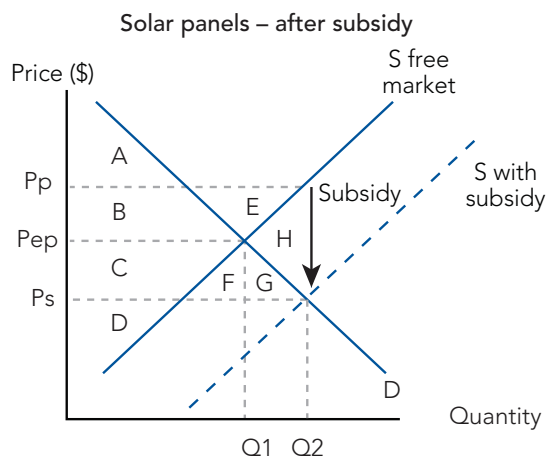
Does a production subsidy lead to deadweight loss?

- The effect of the subsidy on welfare is quite complicated. Hence the 'before subsidy' and 'after subsidy' diagrams on the next page.
- Before subsidy the equilibrium price is P_{eq} . Consumer surplus, the area below the demand curve and above price P_{eq} , is the sum of areas A + B. Producer surplus, the area above the supply curve and below price P_{eq} , is C + D. Total welfare, therefore is A + B + C + D.
- The subsidy shifts the supply curve down by the amount of the subsidy. The price falls from P_{eq} to P_s .
- Consumer surplus rises by areas C + F + G.
- Producer surplus rises by areas B + E.
- Payment of the subsidy is costly to the government. It is subsidising production level Q_2 by the by the amount of the subsidy. The total cost is the rectangle formed by B + C + E + F + G + H.

- Total welfare after the subsidy is the new level of consumer surplus plus the new level of producer surplus minus the cost to the government of the subsidy. This sum comes to $A + B + C + D - H$.
- Welfare has fallen by area H as a result of the subsidy. Area H represents the deadweight loss caused by the subsidy.



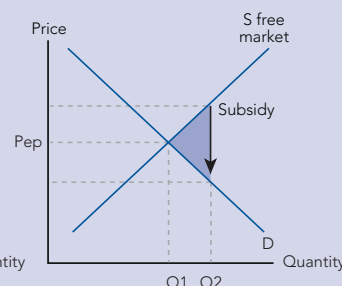
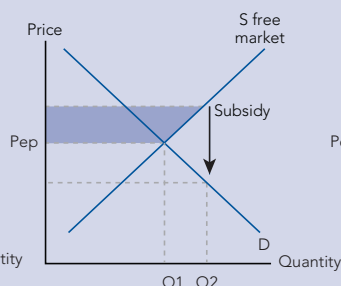
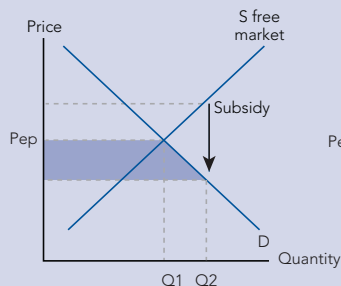
	Free market	Production subsidy
Consumer surplus	$A + B$	
Producer surplus	$C + D$	
Government revenue	Nil	
TOTAL	$A + B + C + D$	



	Free market	Production subsidy
Consumer surplus	$A + B$	$A + B + C + F + G$
Producer surplus	$C + D$	$C + D + B + E$
Government revenue	Nil	$-(B + C + E + F + G + H)$
TOTAL	$A + B + C + D$	$A + B + C + D - H$

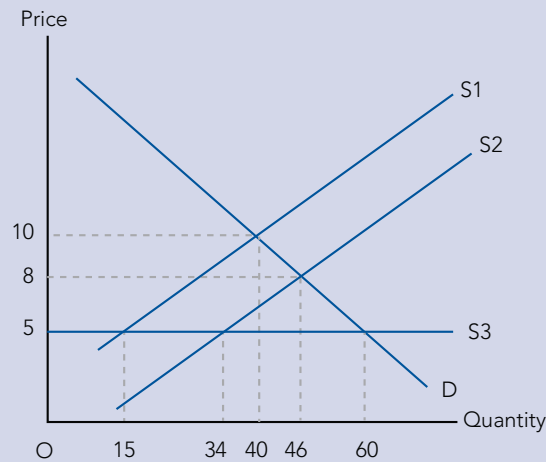
Student Activity 3.3

1. The three diagrams are simplified versions of the diagrams on the previous page showing how a subsidy affects welfare in a market. Write down under each diagram what the shaded area represents.



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

3. When will a subsidy not cause welfare or deadweight loss?



4. The diagram shows an increase in supply from domestic producers as a result of a production subsidy. Domestic suppliers compete for sales with overseas producers.

- Estimate the size of the subsidy per unit of output.
- State the price charged by importers.
- Calculate the quantity of imports before the subsidy.
- Calculate the value of imports (price $\times$ quantity) before the subsidy.
- Calculate the quantity of imports after the subsidy.
- Calculate the value of imports (price $\times$ quantity) after the subsidy.
- What price did domestic consumers pay for the product before the subsidy?
- What price did domestic consumers pay for the product after the subsidy?

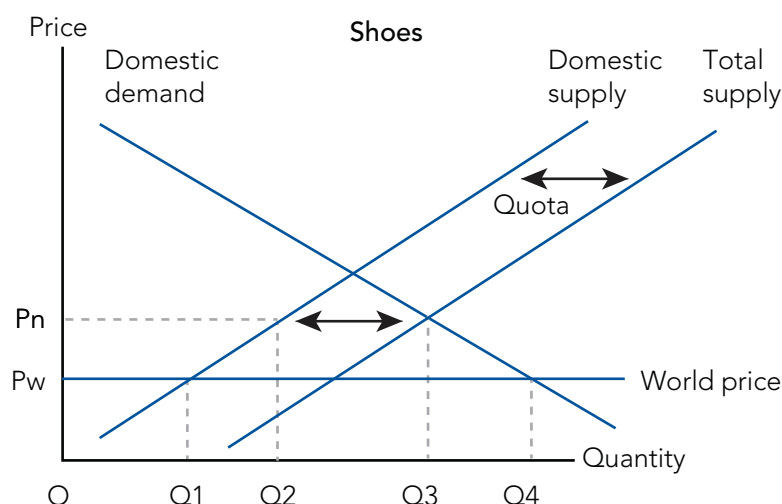
3.4 HOW DOES A QUOTA CONTROL IMPORTS?

- A quota sets the quantity of a product that can be imported ($OQ3 - OQ2$ in the diagram below).
- The quantity of imports when added to the quantity supplied by domestic producers creates the total supply curve for the market.
- Without the quota, imports would be $OQ4 - OQ1$ and consumers would pay the world price P_w .
- With the quota in place supply is reduced, leading to a rise in the price of the product and a contraction in demand and supply until the level of imports has been reduced to the quota.

The overall impact of a quota is as follows:

- Domestic producers gain: They sell more ($OQ2$) and at a higher price (P_n). There is a rise in producer surplus.
- Domestic consumers lose: They pay more (P_n) and buy less ($OQ3$). The whole of the big trapezium shows the size of the loss of consumer surplus (as if rise in price had been caused by a tariff).
- Overseas producers sell less, but 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. The government may in fact sell import licences to producers as a way of allocating imports within the quota, and raise some revenue this way.



Does a voluntary export restraint agreement have the same impact?

Yes! VRAs are essentially voluntary quotas. The result is reduced imports, a higher price for consumers and deadweight loss.

Student Activity 3.4

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.

3.5 REASONS FOR PROTECTIONISM

Why might a government want to restrict free trade?

There are a number of arguments used to justify protectionism.

Infant industries: An infant industry is a new industry that, as yet, hasn't developed a scale of production that allows it to achieve economies of scale. It, therefore, cannot compete effectively with established firms from other countries. Without protection, infant industries will not survive long enough in a free market to mature and develop. The renewable energy industry is an example of an infant industry.

Dumping: Dumping occurs when goods are exported at unreasonably cheap prices (perhaps lower than the cost of production) often to clear surplus supply. Most countries use protectionist measures to avoid having goods dumped into their domestic markets. 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 are no local producers left to supply the market. Tinned tomatoes from Italy appeared to be threatening employment at SPC Ardmona during 2014.

Strategic industries: Strategic industries are industries that the government considers to be very important for the country's economy or the safety of its citizens. These are industries needed in an economy when normal trade and investment links with other countries break down, for

example due to war or a financial crisis. It is difficult to be definitive about Australia's strategic industries because it is hard to imagine a situation where trade and investment links with other countries would collapse.

Sensitive industries: These are iconic or emblematic industries that hold a special place in a nation's psyche, for example because they employ lots of people, have a significant regional presence, produce a traditional product, or provide social or broader economic benefits. This is highly subjective territory, but some people might consider Qantas to be a sensitive producer in need of some government support. Many people thought the car industry was sensitive but the government disagreed.

Retaliation: Tariffs (or countervailing duties) can be used to retaliate against 'unfair' practice by other countries, for example dumping (see above) or excessive use of subsidies. These countervailing duties are, apparently, common in areas such as chemical production and textiles. But two wrongs seldom make a right.

Macroeconomic special events: This argument was used by a number of countries to offset what was believed to be a severe but short-run negative shock for an industry following the global financial crisis. For example, the car industry in many countries was in danger of collapse because the demand for cars is discretionary and non-urgent making demand highly income elastic. Governments protected their car industry during the crisis so that the production capacity would still be there when markets returned to normal.

Burden sharing: Burden sharing is about sharing the pain. Most people benefit to some extent from free trade but the gain per person is relatively modest. However, a relatively small number of people experience a significant level of hardship as a result of free trade (e.g. they might lose their job). This argument could apply to many industries facing structural decline, for example, car producers and coal mining, but the taxpayer can't support every industry in trouble.

Student Activity 3.5

1. Summarise the information above.

Reason for supporting protectionism	Problem protectionism overcomes	Example of industry where this may be relevant

2. What is dumping? To show the WTO that dumping is taking place in your economy what must you be able to prove? Why is dumping a problem?

3. Why do you think the US pays a subsidy to Boeing?

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

5. Draw two diagrams to show how infant industry tariffs and infant industry subsidies can be used to protect sunrise industries. Is a deadweight loss created by the tariff or subsidy i) in the short term and ii) in the long term? What will happen to the domestic supply curve of the sunrise or infant industry over time?

6. List three different reasons why an industry might claim to have 'sensitive' status. What is the cost of protecting sensitive industries? Should sensitive industries be protected?

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

8. Explain the concept of 'burden sharing' within the context of protectionism. Is the cost of industry closure high or low for the people directly involved in that industry? Is the cost of the government support needed to keep the industry operating high or low for each individual taxpayer? The cost of protecting jobs in a textile factory could be \$75,000 a year to the government, much more than the \$40,000 it would cost to pay unemployment benefits to the people who would lose their jobs. Comment.



3.6 IMPACT OF PROTECTIONISM ON MACROECONOMIC PERFORMANCE

Can you explain why protectionism harms economic performance?

It is important to keep the costs of protectionism clear. There has to be a very clear benefit to justify any reduction in free trade. Consider the following macroeconomic variables.

Growth: Protectionism reduces actual and potential growth by:

- Allocating resources to areas where they are used in a relatively inefficient way, e.g. car making, textiles and footwear
- Reducing aggregate demand by reducing real incomes and making it harder to sell exports (see below)
- Reducing incentives: Protectionism introduces 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 reduced fear of work being transferred to low-wage economies

Unemployment: Protectionism causes an overall increase in unemployment despite the protection afforded to workers in protected industries by:

- Reducing the rate of growth
- Causing inflation (see above)
- Making export industries less competitive (see below)

Protectionism is designed to restrict imports but does it also reduce 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 we have not bought their exports
- Forcing up the exchange rate value of the currency because we have cut down on the imports we buy
- Adding competition to our export markets because, for example, if we don't buy cars from Japan they may sell their cars to Indonesia instead, a market we had targeted for exports

So, on balance, will welfare rise or fall as a result of increased protectionism?

This is almost impossible to answer – there are so many variables to consider. Unless protectionism is targeted to address specific areas of market failure (e.g. failure to consider negative externalities from job losses) it is likely that protectionism will lead to a reduction in overall welfare.

Student Activity 3.6

1. Assess the validity of the following arguments for protectionism.

(a)	All imports are bad because they represent a leakage from the circular flow	
(b)	Infant industries with the potential to grow and become efficient need some protection from established businesses in other countries	
(c)	Some agricultural imports expose our producers to exotic pests and diseases that could destroy production and jobs for years to come	
(d)	Some cheap imports are made by people on low wages and who work in sub-standard conditions	
(e)	Trade liberalisation creates structural unemployment as a result in a change in the pattern of production	
(f)	Trade liberalisation creates inflation because the extra demand for exports raises aggregate demand, and causes demand-pull inflation	
(g)	Trade liberalisation exposes Australian consumers and workers to the bad behaviour of multinational corporations (such as transfer pricing, cultural imperialism)	
(h)	If we do not protect our producers and other countries do, trade will be unfair.	
(i)	Dumped goods (sold overseas for less than the cost of manufacture, perhaps for just a short time) destroy local industries.	
(j)	The prices of Australia's imports are constantly rising and the price of Australia's exports are constantly falling, so we have a persistent current account deficit.	
(k)	Some markets where supply is inelastic (like agricultural or resource markets) are subject to price instability.	
(l)	Trade liberalisation benefits many people a little but hits a few people a lot. The many might gladly give up their gains to help the few.	
(m)	The Theory of Comparative Advantage is only a theory. In the real world the assumptions on which it is based do not exist.	
(n)	Some industries are worth supporting because they support a lifestyle or create employment in a particular region.	
(o)	Protecting domestic industry protects jobs and promotes growth.	
(p)	Some products and industries are so important to an economy that it is folly to rely on overseas countries for their supply	

2. Explain why protectionism can have a negative affect on the following macroeconomic variables.

Level of growth	
Standard of living and welfare	
Employment	
Price stability	
External balance (export sales)	

3. Describe and evaluate the economic rationale for using protectionist measures to:

(a) Protect domestic employment

(b) Protect an industry from imports from 'low labour cost' countries

(c) Protect an economy from the risks of overspecialisation

(d) Raise taxation revenue for the government

(e) Correct a balance of trade deficit

SO YOU NOW THINK YOU UNDERSTAND PROTECTIONISM

Definition of protectionism	Seven reasons for protectionist measures 1 2 3 4 5 6 7
Two main categories 1 2	Three reasons protectionism harms growth 1 2 3
Seven examples of non-tariff barriers 1 2 3 4 5 6 7	Three reasons protectionism causes inflation 1 2 3
Sketch tariff diagram to show fall in imports and deadweight loss	Five reasons why protectionism increases unemployment 1 2 3 4 5
Sketch subsidy diagram to show fall in imports and deadweight loss	Six reasons why protectionism makes it harder to export 1 2 3 4 5 6
Sketch quota diagram to show fall in imports and deadweight loss	Overall assessment of protectionism 1 2 3

REALITY CHECK

Chapter 3: Protectionism

1. Which of the following is a strong economic argument for protectionism?
 - (a) Long run support for an industry on infant industry grounds.
 - (b) Tariff revenue is a way of raising revenue for the government, and, therefore, allows the government to levy taxes at a lower rate than would be the case without the tariff revenue.
 - (c) Long run support for a manufacturing industry that cannot compete against imports from countries where wages and workplace standards are low.
 - (d) Protection of an industry against imported products that appear to be being imported at below normal price levels due to a temporary glut of that product.

2. Why do some industries that have the potential to grow and become efficient need protection from established businesses in other countries?
 - (a) In the short run they may not be able to benefit from the economies of scale enjoyed by established, but ultimately less efficient, businesses overseas.
 - (b) They employ large numbers of workers who would become structurally unemployed without the protection.
 - (c) Without the protection, broad social and cultural benefits would be sacrificed.
 - (d) The protection allows strategically important industries to stay in business.

3. Why might a government decide to impose tariffs on imported goods for 'burden sharing' reasons?
 - (a) It is avoiding the relatively high costs of structural unemployment for workers in the protected industry and accepting the relatively low costs of reduced real incomes experienced by the rest of the population.
 - (b) It is avoiding the relatively low costs of structural unemployment for workers in the protected industry and accepting the relatively high costs of reduced real incomes experienced by the rest of the population.
 - (c) It avoids placing higher taxes on the population as a whole by paying subsidies to the protected industries.
 - (d) It is avoiding the cost to the Government's budget balance from too many imports.

4. The theory of comparative advantage suggests that welfare is increased when:
 - (a) The government imposes barriers to international trade to protect industries in which we have 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 flows.
 - (d) The government imposes barriers to international trade in industries where labour productivity is relatively low in their economy.

5. 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.

6. 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.
 - (b) Putting tariffs on imports encourages retaliation from other countries, which makes it harder for domestic producers to sell exports
 - (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.
7. 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.
8. Which of the following is true if the pattern of comparative advantage changes over time?
- (a) Structural unemployment should be prevented by the use of tariffs to protect profits in the newly disadvantaged industries.
 - (b) There will be a rise in demand deficiency or cyclical unemployment rather than structural unemployment.
 - (c) Market forces, in most cases, will lead to an efficient reallocation of resources.
 - (d) The government should raise the tariffs on all imports and use the revenue to provide subsidies to industries threatened by imports.
9. The car industry used to receive government assistance (e.g. through subsidies and tariffs). Which of the following explains why the assistance is now being withdrawn?
- (a) Sales in the car industry are rising despite the low levels of consumer confidence.
 - (b) Unemployment in Australia's car making regions is no higher than elsewhere in Australia.
 - (c) Supporting the car industry created a deadweight loss by prolonging an inefficient allocation of resources.
 - (d) Australia now has competitive advantage in car making compared to other countries.
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.

Questions a) Describe how tariffs and subsidies can be used to reduce the level of imports. [8 marks] b) Explain four reasons why countries continue to employ protectionist measures. [12 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

AUSTRALIA'S PATTERN OF TRADE



SYLLABUS CHECKLIST

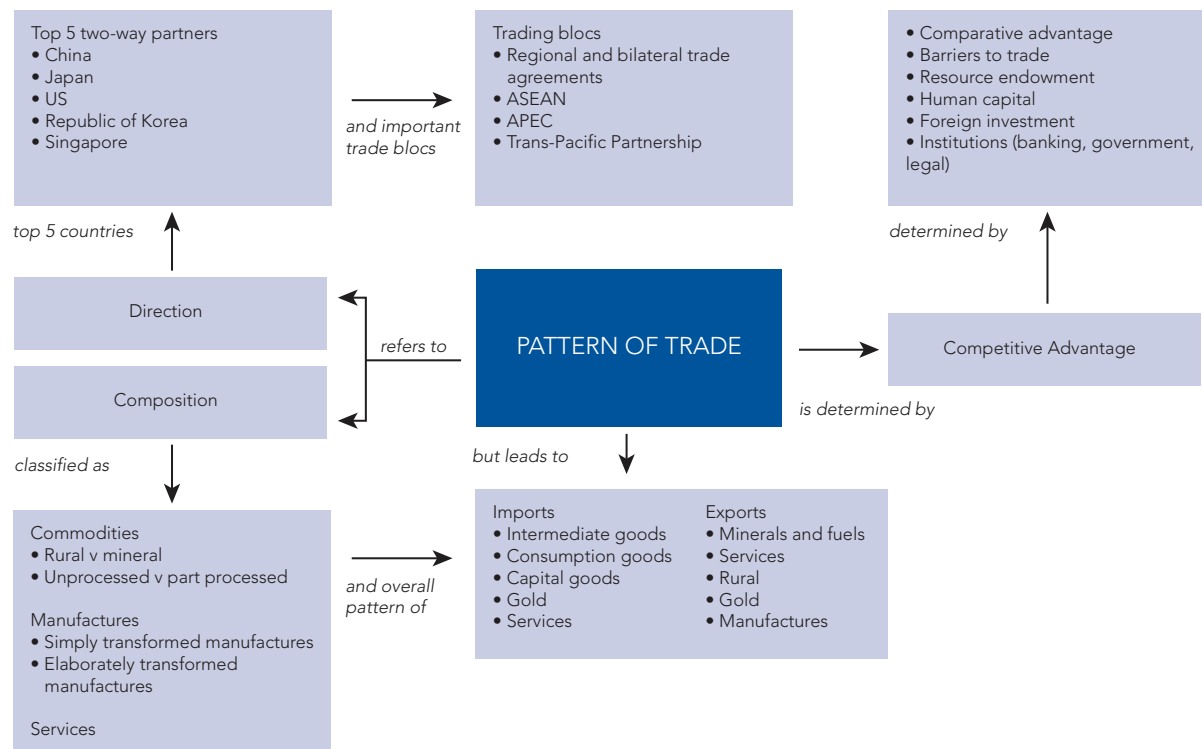
Topics covered in this chapter:

- ☐ Sources of comparative advantage.
- ☐ Patterns and trends in the composition and direction of Australia's trade.

OVERVIEW – 10 STEPS TO UNDERSTANDING AUSTRALIA'S PATTERN OF TRADE

1	The pattern of trade has two elements, the direction of trade (countries with whom we trade) and the composition of trade (the products that we trade). The two elements are closely connected.
2	Products can be classified according to the degree of processing involved in their production. Commodities are classified as unprocessed or part-processed, while manufactured goods are either simply transformed (e.g. components to be used as inputs to another production process) or elaborately transformed (made into a recognisable final product such as a car or computer).
3	The majority of Australia's exports are unprocessed commodities (although there are exceptions) and most imports are intermediate and elaborately transformed manufactured goods.
4	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 manufactured goods.
5	Globalisation has allowed businesses to develop global value chains (GVCs) through which inputs are sourced from around the world. This accounts for the growth in trade in intermediate goods. GVCs provide opportunities for niche or specialist manufacturers to participate in the production of products such as aircraft and satellites. Globalisation has also led to the growth of Multinational Corporations (MNCs) that undertake international trade within their organisation. Over 50% of Australia's merchandise trade is intra-company trade.
6	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.
7	Trade volumes with individual countries are affected by the growth rates of individual countries and the trading blocs and trade agreements to which they belong.
8	Australian exporters can be successful in areas where they have a competitive advantage. A competitive advantage may reflect, for example, comparative advantage (e.g. from resource endowment), foreign investment, skills and training and infrastructure development.
9	There are a number of factors that affect the competitiveness of Australian producers such as the value of the Australian Dollar, the protectionist policies of other countries, government regulations and high direct tax rates.
10	Recent changes to commodity prices and an increase in demand from the rising middle class population across Asia suggest that the pattern of Australia's trade will change further over the next few years.

Pattern of Trade mind map



4.1 THE PATTERN OF TRADE

What are the two aspects of the pattern of trade?

What we trade and with whom we trade are both important aspects of the overall pattern of trade. The term 'composition of trade' refers to the pattern of goods and services exported and imported and the term 'direction of trade' refers to the countries we export to and import from.

The composition and direction of trade are closely interlinked. For example, we export to China because China needs to buy iron ore and coal and we import from China because we need to import mass produced manufactured goods such as cars, electrical goods and toys.

Australia exports a diverse range of products (including iron ore with a value of \$74.7b a year, boats with a value of \$1.4b and waste paper with a value of \$0.2b) to over 210 countries (including \$100.1b worth of exports to China, and \$57,000 to South Sudan). Australia imports an equally wide range of products (including oil with a value of \$40.7b, cars with a value of \$17.8b and seafood with a value of \$0.7b) from slightly more than 210 countries (including \$50b worth of imports from China but only \$3,000 from Tajikistan).

Student Activity 4.1

- Given that Australia's GDP is approximately \$1,500b and the value of our exports and imports taken together is about \$650b, calculate the approximate value of Australia's trade openness (or trade intensity) index.

2. (a) What are the two aspects to the pattern of trade?

(b) Explain, using an example, the close connection between the direction of trade and the composition of trade.

4.2 COMPOSITION OF AUSTRALIA'S MERCHANDISE TRADE

How can Australia's exports and imports be classified?

One way goods can be classified is the extent or level of processing (or value-adding) involved in their production. The products of the *primary sector* come directly from direct natural resources of the economy. These products are referred to as rural, mineral or energy commodities and are used as inputs for making other products. They can be unprocessed (such as mineral ores) or semi-processed (such as beverages and frozen foods). The secondary or manufacturing sector of the economy creates processed, finished, usable products. These are classified as 'simply transformed' manufactures (STMs) or 'elaborately transformed' manufactures (ETMs). STMs consist mainly of basic metal manufactures, chemicals and other intermediate manufactured goods (e.g. aluminium, sulphuric acid, and components) that will be used as inputs into the production of other goods. ETMs are finished or final goods with unique features that permit their identification as differentiated products on world markets (e.g. cars and computers). ETMs comprise the bulk of world trade in manufactures. The 'other' category in the tables below includes non-monetary gold and 'goods of a commercially sensitive nature' (i.e. where disclosure of data could help producers in other countries).

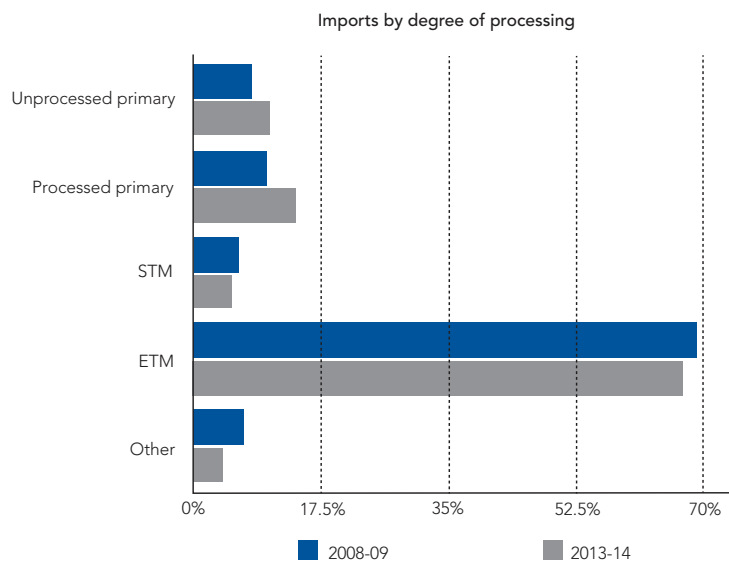
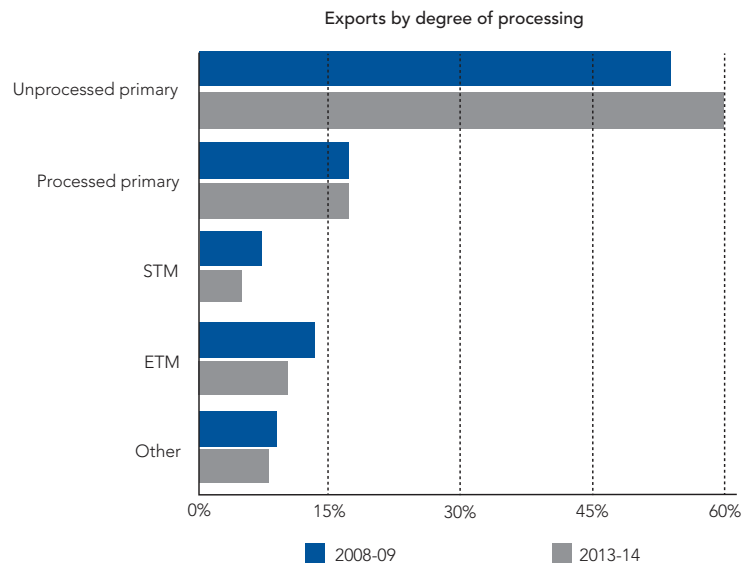
Why is the degree of processing important?

Processing adds value to a product. For example, steel is more valuable than iron ore and a bridge is more valuable than steel. Value adding contributes to economic growth and creates incomes and employment.

Unprocessed commodities are more or less homogenous, e.g. iron ore in Brazil is very similar to iron in Australia and oil in Nigeria is similar to oil from the Bass Strait. It is difficult to get a competitive edge in market where products are the same. Commodity prices are subject to more price volatility than manufactured goods.

What is the 'processing level' composition of Australia's trade?

The charts show that about 60% of Australia's exports are commodity exports and that this proportion has, as you would expect, grown during the mining boom. In contrast over two-thirds of Australia's imports are ETMs.



Source: Austrade

Student Activity 4.2

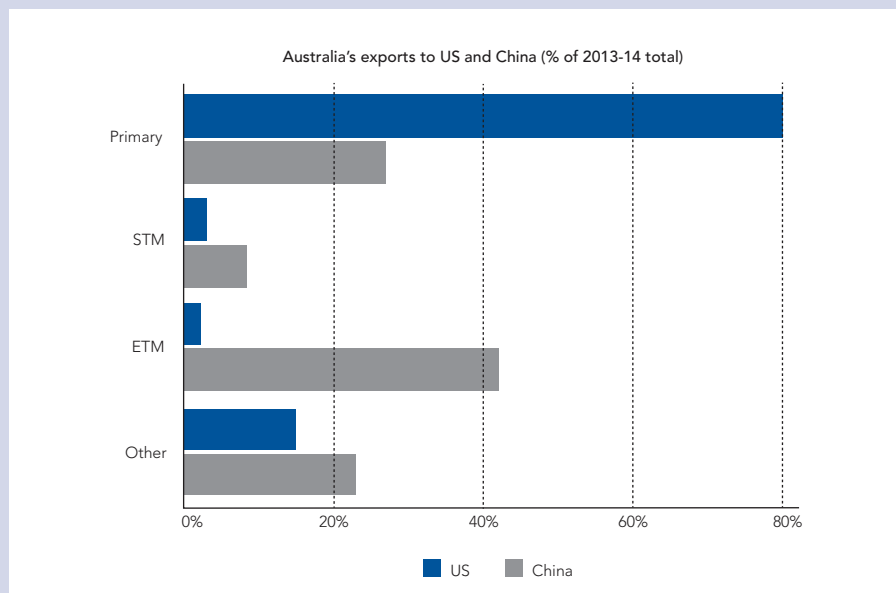
- Using an example, explain the difference between a commodity and a manufactured good.

- Using an example, explain the difference between an STM and an ETM.

3. Australia produces lots of iron ore but makes very little steel. State two reasons that contribute to this situation.

4. What percentage of Australia's exports and imports are unprocessed? Explain two consequences of the differences in these percentages.

5. The chart below shows a comparison between the composition of exports between Australia and China and Australia and the US.



Source: www.dfat.gov.au/trade/resources/Documents/aust.pdf

- (a) Comment on the different pattern of exports between Australia and China and Australia and the US.

- (b) State two reasons for the differences in the pattern.

4.3 IS THIS PATTERN REFLECTED IN OTHER TRADE DATA?

As you would expect, a similar pattern is shown in Australian Bureau of Statistics data based on production from different sectors of the economy. Note that the percentages in the charts below are affected by the inclusion of services and are not directly comparable with the degree of processing data.

Exports of Goods and Services 2013* – Share by Sector



* Balance of payments basis

Imports of Goods and Services 2013* – Share by Sector



Source: dfat.gov.au (based on ABS catalogue 5302.0)

Why do we import so many 'intermediate and other' goods?

'Intermediate and other' goods are the biggest category of imports shown in the charts. Intermediate goods, such as car engines, are the component parts of other goods and when assembled create part of a 'value chain'. A 'value chain' describes the step-by-step process of adding value to a product through, for example, design, marketing, production 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:

- Increasing information and communication technology capabilities
- Changing production costs (e.g. Asia's manufacturing cost advantage)
- Lower trade and transport costs and improved international logistics
- Fewer barriers to trade (e.g. tariff and quota reduction)

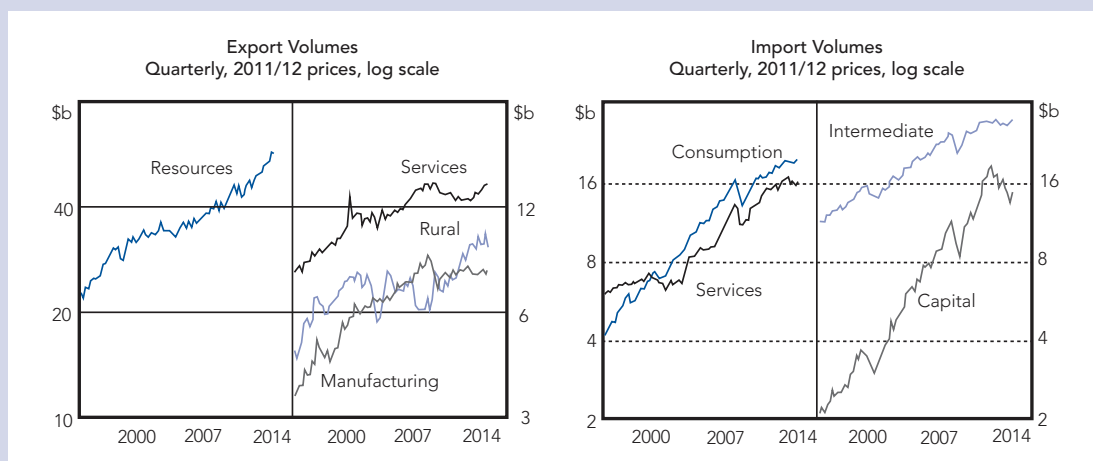
Globalisation and the development of GVCs mean that products are no longer made in one country but are made across the world. Countries increasingly rely on foreign inputs for their own exports, which may then be further processed in partner countries. Between 30 per cent and 60 per cent of G20 countries'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

Why are global value chains significant?

Producers often source production inputs from many corners of the globe as part of GVCs. The trade in intermediate goods has provided an incentive to cut barriers to trade, e.g. tariffs, so that local industries can improve their international competitiveness. Opportunities to be part of a GVC are significant for the Australian economy. The contract for Boeing Aerostructures Australia to produce the moveable trailing edge on the wings for the Boeing 787 Dreamliner in Melbourne is worth about \$4b over 20 years. It is unlikely that Australian industry would be able to participate in aeroplane manufacture without the development of global value chains.

Student Activity 4.3

1. Use the data in the table to answer the questions below.



Source: ABS, RBA

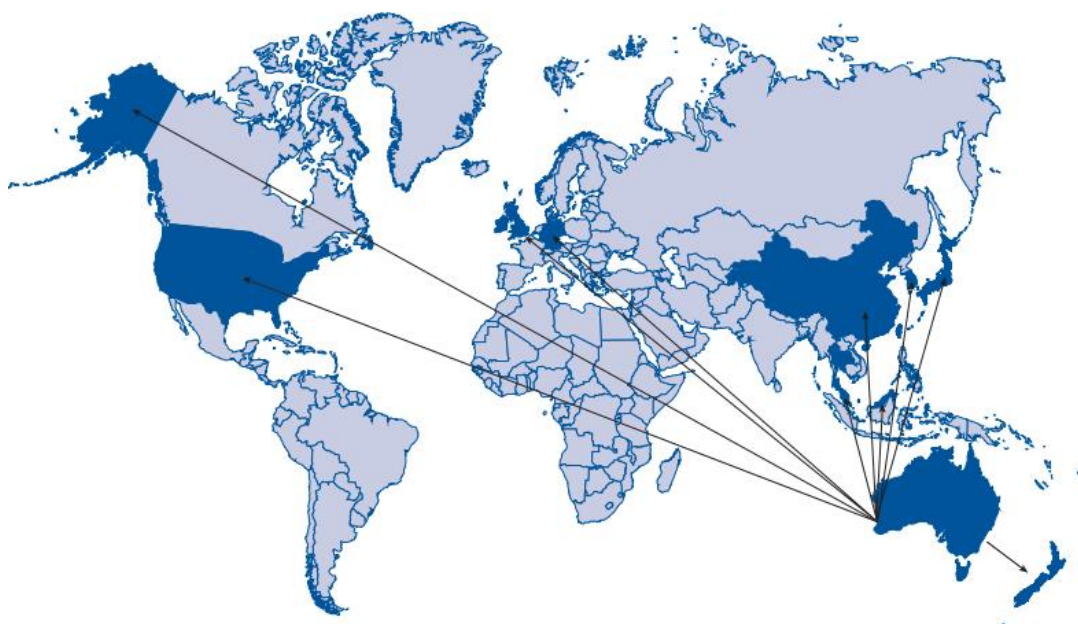
a)	What was the biggest export category in 2014? Estimate the annual value of these exports in 2014?	
b)	Describe the trend in manufacturing exports from 2007 to 2014. State one key factor that influenced the level of manufactured exports during this period.	
c)	List two important service exports from Australia. State why we are internationally competitive in these service areas.	
d)	State what happened to the value of rural exports from 2007 to 2014. State one reason for the growth in rural exports during this period.	
e)	What was the biggest import category in 2014? Why was the net cost of these imports less than \$25b per quarter figure shown in the chart?	
f)	Give an example of a capital goods import? Why was there strong growth in capital goods imports from 2000 to 2011?	
g)	List two important service imports into Australia. State two reasons why we import these service products.	
h)	State what happened to the value of imported consumption goods after 2008. State one reason for this trend.	

2. Research

Use a search engine to find the 'Atlas of Economic Complexity'.

- What is a tree map? What information does it show?
- Find the tree maps showing Australia's exports and imports. List Australia's top five export and import products and the percentages involved.

4.4 WHICH COUNTRIES ARE OUR TOP TRADING PARTNERS?



Australia's goods and services trade with Japan (A\$ million)

Year	Exports	Imports	Total trade
2009	40,482	18,891	59,373
2010	45,873	20,456	66,329
2011	52,503	20,183	72,686
2012	49,986	21,247	71,333
2013	49,532	21,221	70,753

Australia's goods and services trade with Singapore (A\$ million)

Year	Exports	Imports	Total trade
2009	8,454	14,662	23,116
2010	7,581	14,147	21,728
2011	9,667	18,133	27,800
2012	10,358	18,784	29,142
2013	9,209	17,878	27,087

Australia's goods and services trade with the United States (A\$ million)

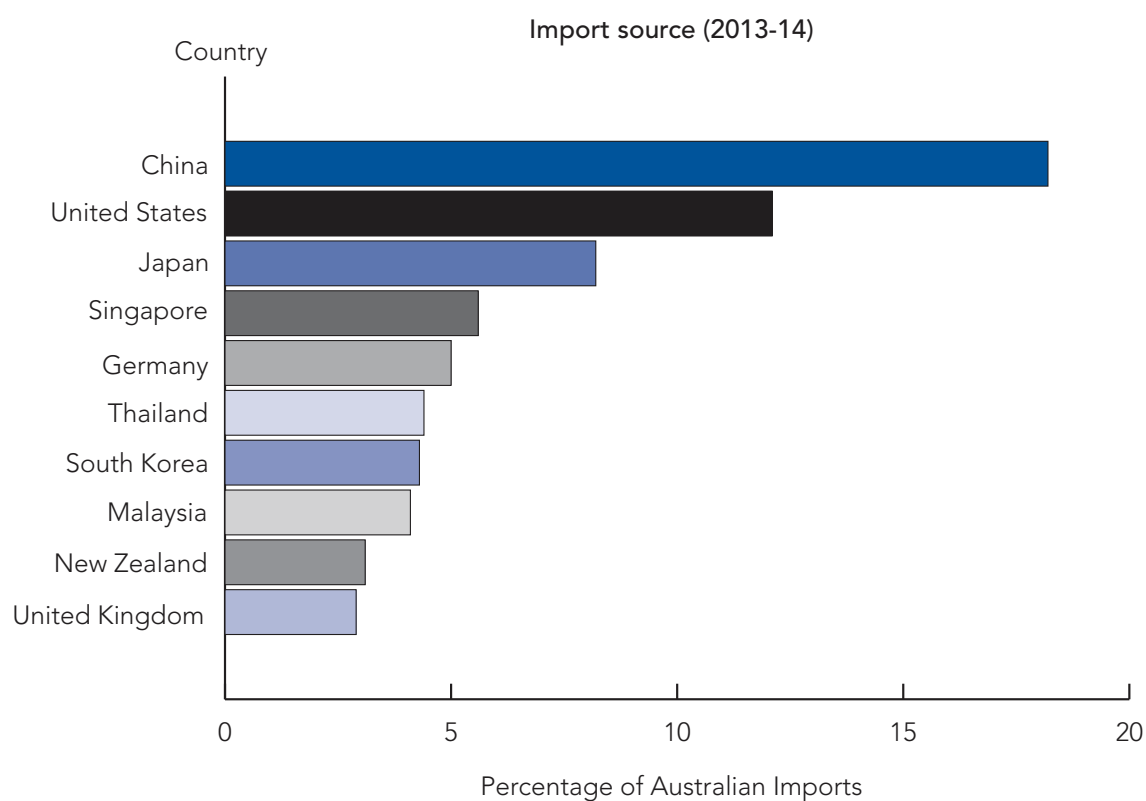
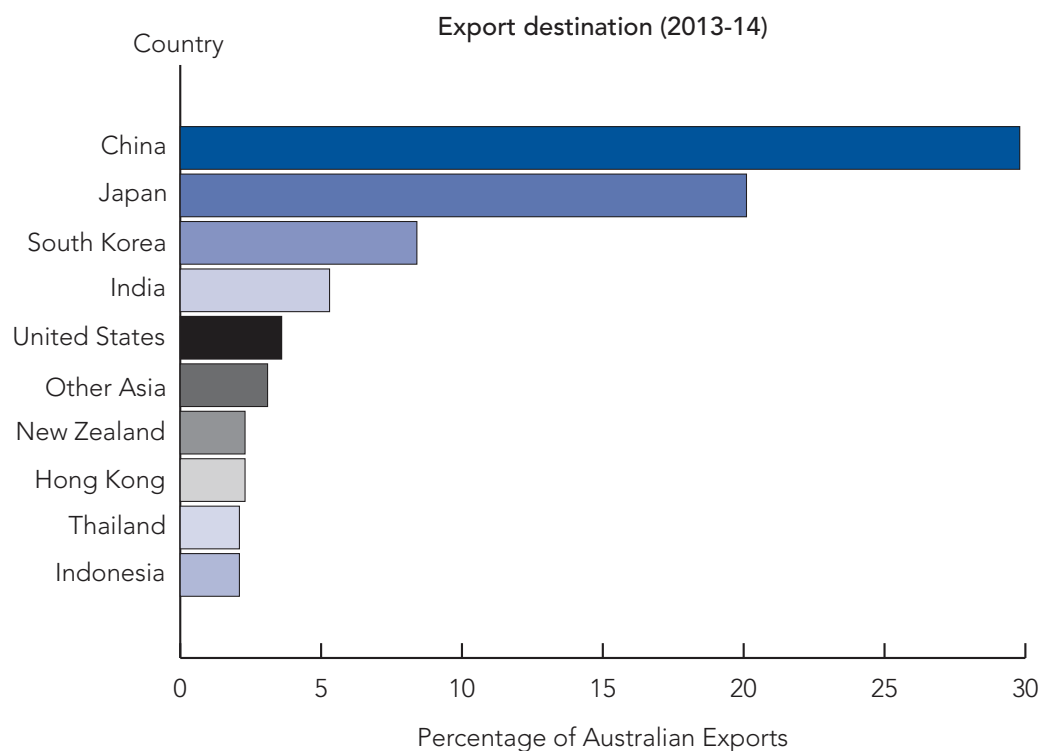
Year	Exports	Imports	Total trade
2009	15,073	34,320	49,393
2010	14,332	35,174	49,506
2011	14,947	39,202	54,149
2012	14,627	41,462	56,089
2013	15,533	39,181	54,714

Australia's goods and services trade with China (A\$ million)

Year	Exports	Imports	Total trade
2009	47,763	37,399	85,162
2010	64,304	41,029	105,333
2011	77,596	44,030	121,626
2012	79,260	46,402	125,662
2013	101,590	49,329	150,919

Australia's goods and services trade with the Republic of Korea (A\$ million)

Year	Exports	Imports	Total trade
2009	17,477	6,947	24,424
2010	22,405	7,709	30,114
2011	25,008	7,662	32,670
2012	21,582	10,317	31,899
2013	21,274	10,813	32,087



Student Activity 4.4

1. Use the data provided to complete the table below.

Country	Value of total trade \$b (2013)	Exports to	Total export percentage	Imports from	Total import percentage
China					
Japan					
United States					
Republic of Korea					
Singapore					

2. Identify the other countries shaded in the map that make up the Australia's top 10 trading partners.

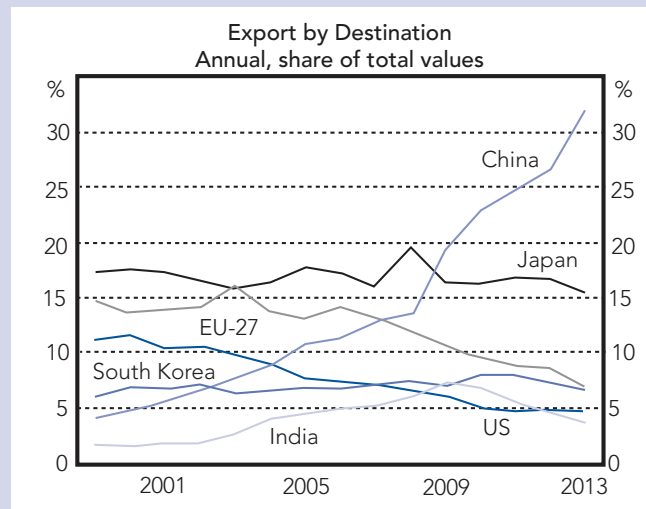
Has the direction of our trade always been like this?

Two important factors have led to a change in the pattern of Australia's trade over time:

- Overseas growth hotspots: As countries grow and develop they demand more resources and are able to supply capital and consumer goods. In the 1960s and 1970s Japan was growing quickly. They bought our resource exports and supplied us with machinery and consumer goods such as cars and electrical goods. As Japan entered a period of economic stagnation in the 2000s, the focus of trade switched to China, the Republic of Korea and countries within the Association of South East Asian Nations (ASEAN) where growth was accelerating and incomes were rising.
- Development of trading blocs: Before Japan emerged as a major trading partner, European countries dominated our trade, especially the UK. In 1973, six countries, including the UK, established a trading bloc known as the European Common Market. In a common market member countries abolish tariffs between themselves but impose common tariffs on non-members. This meant that the UK could not continue to import rural commodities from Australia on preferential terms as no preference was allowed. Meat, grain and fruit exports to Europe fell and Australia needed to find new markets for their produce.

Student Activity 4.5

1. Describe and account for four key changes in the direction of Australia's exports during the period covered by the chart.



Source: ABS

4.5 FACTORS AFFECTING THE PATTERN OF TRADE

Is the pattern of trade determined by comparative or competitive advantage?

- Comparative advantage and competitive advantage are not the same but one influences the other.
- The Theory of Comparative Advantage explains how, in certain conditions, countries gain from international trade when they specialise in the production of products in which they have a comparative advantage. Producers in a country hold a comparative advantage if they can produce their products at a lower opportunity cost than producers in other countries. Comparative advantage refers to a given or inherited advantage. It refers to what can be done with the resource endowment of a country. For example, Australia has a comparative advantage over Japan in gold production because Australia has gold deposits and Japan does not. India has a comparative advantage compared to Australia in making jewelry because they have more skilled craftspeople and artists than we do.
- Competitive advantage occurs when producers develop an advantage over their competitors in international markets. The emphasis is on advantages that have been created rather than given, through, for example, investment in education, research, infrastructure and capacity. For example, Airbus Industries Europe was created as a result of collaboration between four European countries (and the use of lots of tax payers' money) to give Europe a competitive advantage in aircraft manufacture.
- Historically, Australia's trade pattern (as with other countries) has reflected comparative advantage. Our rural, mineral and energy commodities are endowed rather than created. But as a result of globalisation and the freer movement of resources, financial capital, technology and ideas around the world, competitive advantage is becoming more important.

What contributes to competitive advantage?

- **Comparative advantage:** Australia is endowed with an abundance of rural, mineral and energy resources.
- **Free trade:** The Australian government promotes free trade through regional trade agreements and forums (e.g. the Trans-Pacific Partnership and Asia Pacific Economic Cooperation (APEC)) and through country-to-country agreements (e.g. the China-Australia FTA signed in late 2014). FTAs play an important role in trade liberalisation and are supported by the World Trade Organization (WTO) rules as long as the FTAs are consistent with WTO benchmarks.
- **Foreign investment:** Australia is able to attract both portfolio and direct foreign investment. This funds investment in productive capacity and allows for the transfer of technology and knowledge into Australia.
- **A well-educated, highly skilled workforce:** Australia has leading experts in many fields for example, in science, medicine, engineering and architecture. Generally, Australian workers are fully literate and skillful.
- **Non-price competitiveness:** Non-price competitiveness includes factors such as product design, innovation, reliability, after-sales support and quality of service that affect the overall competitiveness of a product.
- **Strong institutions:** Commerce is supported by a number of institutions such as the banking and financial systems, a legal system and systems of government. It is important that each system is stable and honest.

Free Trade Agreements (FTAs)

The countries covered by the FTAs that Australia currently has in force, including the recently concluded agreements with Japan, Korea and China, account for over 60% per cent of our total trade. FTAs are helping Australian exporters access new markets and expand trade in existing markets. FTAs can cover entire regions with multiple participants or link just two economies. Under these agreements, parties enter into legally binding commitments to liberalise access to each others' markets for goods and services, and investment. FTAs also typically address a range of other issues such as intellectual property rights, government procurement and competition policy.

Australia has concluded ten bilateral and regional trade agreements:

- Malaysia-Australia Free Trade Agreement (MAFTA) 2013
- Australia-Chile Free Trade Agreement (ACIFTA) 2009
- Australia-United States Free Trade Agreement (AUSFTA) 2005
- Thailand-Australia Free Trade Agreement (TAFTA) 2005
- Singapore-Australia Free Trade Agreement (SAFTA) 2003
- Australia-New Zealand Closer Economic Relations Trade Agreement (ANZCERTA) 1983
- ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) 2010
- Korea-Australia Free Trade Agreement (signed April 2014)
- Japan-Australia Economic Partnership Agreement (signed July 2014)
- China-Australia Free trade agreement (signed Nov 2014)

Negotiations are taking place with:

- India
- Indonesia
- Trans-Pacific Partnership members (Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, USA, Vietnam)

- Regional Comprehensive Economic Partnership members (ASEAN, China, India, Japan, Republic of Korea and New Zealand)
- Pacific Agreement on Closer Economic Relations members (Cook Islands, Micronesia, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu)
- The Gulf Cooperation Council (Saudi Arabia, Qatar, Bahrain, Oman, Kuwait, United Arab Emirates)

Source: DFAT

What detracts from Australia's competitive advantage?

- The Australian Dollar is a 'commodity currency': The exchange rate value of the Australian Dollar (AUD) is influenced by the global prices of commodities. The value of the AUD rose beyond parity with the US Dollar (USD) in 2011. The high value of the AUD made it difficult for exporters from other sectors of the economy to remain competitive in international markets. Commodity prices tend to be less stable than manufacturing prices, due to less predictable levels of demand and supply, and this causes greater movements in the exchange rate value of commodity currencies. Instability can create uncertainty and reduce business confidence.
- **A regulated economy:** The need to comply with regulations adds to business costs and reduces flexibility. For example, occupational health and safety, environmental, native title, employment, parental leave and other regulations, while reasonable in their own right, may impose a higher regulatory cost burden on Australian producers than in other countries. Australian producers complain that Australia is a high-cost country in which to conduct business.
- **High direct taxes:** The relatively low emphasis on indirect taxation in Australia leads to relatively high rates of direct tax, such as company tax and income tax. Some multinational firms may be in a position to reduce their tax liability by, for example, transfer pricing or borrowing practices, putting domestic producers at a disadvantage.
- **Labour supply:** In contrast with a number of South-East Asian economies, Australia does not have a large low-cost labour supply suited to volume production of manufacturing products as, for example, in electronics and vehicle production in China and the Republic of Korea.
- **High wages and low productivity:** High wages can be justified if productivity is also high. In this situation unit costs can remain competitive. However, in Australia productivity growth has been low relatively as support for economic reform policies has faltered.
- **Lack of economies of scale:** Australia has a relatively small domestic market compared to other countries. Our producers operate at a disadvantage compared to those in countries where economies of scale are achieved through large-scale manufacture.



Student Activity 4.6

1. List three factors that are likely to be sources of competitive advantage for the following Australian producers:

(a) Iron-ore producers

(b) Ferry producers

(c) Architecture

(d) Dairy producers

2. List three factors that are likely to be sources of competitive disadvantage for the following Australian producers:

(a) Car producers

(b) Cattle producers

(c) Education providers

(d) Dairy producers

4.6 HOW WILL THE PATTERN OF TRADE CHANGE IN THE FUTURE?

Australia needs to continue to exploit its comparative advantage in rural, mineral and energy products. There are opportunities to add more value to these products by further downstream processing.

It is unlikely that Australian producers of low-cost high-volume products (such as clothes, cars and computers) will be successful in export markets. They could diversify into the production of goods and services demanded by rapidly growing middle-class population across Asia, especially low-volume, high-end niche manufactured goods (e.g. yachts and medical equipment) valued-added agricultural products (wine, processed foods, dairy) and services (education, tourism, health, insurance and financial services).

Australian producers with special areas of expertise can contribute to global value chains.

Student Activity 4.7

(a) What factors will influence the pattern of Australia's trade to 2020?

(b) What will be the main features of the pattern of Australia's trade by 2020?

SO YOU NOW THINK YOU UNDERSTAND THE PATTERN OF AUS. TRADE

State value of: Australia's exports Australia's imports Two-way trade	Top 5 two-way trade partners 1 2 3 4 5
Formula for measuring trade openness or intensity	Two general factors shift in focus from Europe to Japan and then to China 1 2
Two aspects to the pattern of trade 1 2	Difference between comparative advantage and competitive advantage? 1 2
Four types of products based on degree of processing 1 2 3 4	Five factors contributing to a competitive advantage for Australia producers 1 2 3 4 5
List Australia's five major export sectors 1 2 3 4 5	Five factors contributing to a competitive disadvantage for Australia producers 1 2 3 4 5
List Australia's five major import sectors 1 2 3 4 5	Role of free-trade agreements 1 2 3 4
Top 5 export goods and services 1 2 3 4 5	Three features of Australia's trade pattern in 2020 1 2 3
Top 5 imports goods and services 1 2 3 4 5	

REALITY CHECK

Chapter 4: Pattern of Trade

1. Over 60% of Australia's exports are:
 - (a) Unprocessed commodities.
 - (b) Processed commodities.
 - (c) Simply transformed manufactured goods.
 - (d) Elaborately transformed manufactured goods.

2. The biggest category of Australia's exports is _____ and the biggest category of imports is _____. The missing words in the correct order are:
 - (a) Resources, consumer goods.
 - (b) Resources, intermediate goods.
 - (c) Manufactured goods, intermediate goods.
 - (d) Services, capital goods.

3. Which of the following countries is NOT one of Australia's top 5 two-way trade partners?
 - (a) China.
 - (b) Japan.
 - (c) Germany.
 - (d) Singapore.

4. 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.

5. The direction of trade is affected by the development of trading blocs and free-trade agreements. Australia is NOT a member of, and has NO trade agreement with, which of the following trading blocs and, as a result, Australian producers face trade barriers when they try to export to members of this trading bloc?
 - (a) Association of South East Asian Nations (ASEAN).
 - (b) European Union.
 - (c) Asia Pacific Economic Cooperation Forum (APEC).
 - (d) Australia and New Zealand Free Trade Area (ANZFTA).

6. Which pair of countries are both in the top 5 countries that sell imports to Australia?
 - (a) China and India.
 - (b) Germany and Singapore.
 - (c) China and Singapore.
 - (d) Germany and the Republic of Korea.

7. Which of the following is a correct statement?
 - (a) There is a close relationship between the composition of trade and direction of trade.
 - (b) There is a close relationship between the composition of exports and the composition of imports.

- (c) There is a close relationship between the composition of trade and whether or not a country has an absolute advantage in the production of a product.
 - (d) There is a close relationship between 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 elaborately transformed manufactured goods?
- (a) A regulated labour market.
 - (b) The ability to exploit economies of scale.
 - (c) Strong financial, government and legal institutions.
 - (d) Relatively low levels of labour productivity.
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 55 and 60%.
 - (c) under 200, between 90 and 95%.
 - (d) under 200, between 55 and 60%.

Question Explain four factors that have led to changes in Australia’s pattern of trade during the last decade. [14 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion



SYLLABUS CHECKLIST

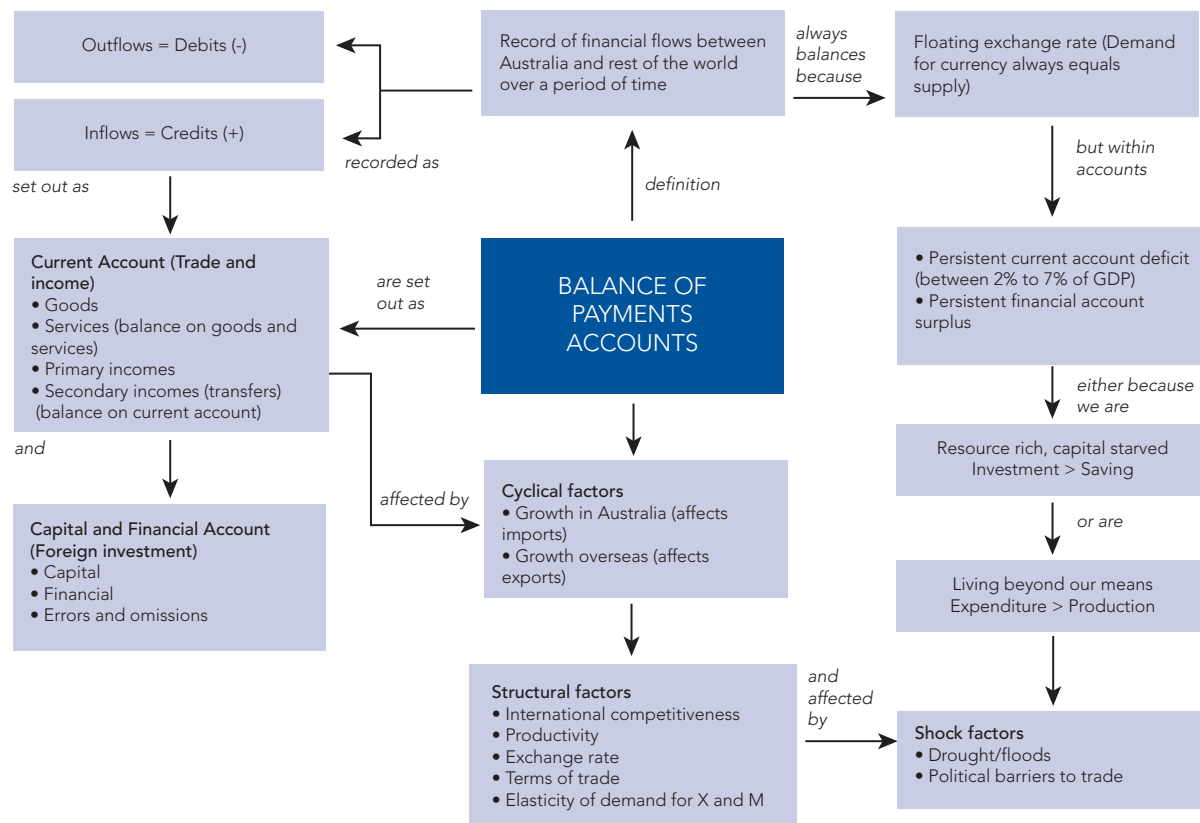
Topics covered in this chapter:

- ☐ Structure of Australia's balance of payments and the concept of the current account balance.
- ☐ Recent (the last ten years) trends in Australia's current account.
- ☐ Structural and cyclical reasons for Australia's current account deficit
- ☐ Differing views as to the significance of Australia's current account deficit

OVERVIEW – 10 STEPS TO UNDERSTANDING 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 in which trade and income flows are recorded and the capital and financial account in which capital and foreign investment flows are recorded.
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. Total financial inflows must equal total financial outflows because the value of the Australian Dollar is market-based and rises or falls in value to ensure that demand and supply in the foreign exchange market remains equal.
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 combined outflows (or debits) from these sub-accounts are greater than 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 account for sampling errors and untraced transactions.
8	Australia has a persistent current account deficit that has fluctuated in recent years from 2% of GDP to 7% of GDP. While fluctuations in the deficit tend to reflect cyclical factors (i.e. economic growth rates in Australia and in the economies of our major trading partners) and shocks (e.g. droughts and floods), the persistent deficit reflects structural factors (such as the exchange rate, the terms of trade and relative level of international competitiveness).
9	There are differing views about the cause and significance of these persistent deficits. One view is that the persistent deficit reflects Australia's reliance on savings from other countries to finance our investment needs, and, in turn, the willingness of foreigners to lend us money or buy our assets reflects the fundamental strength of the economy.
10	The counter view is that the deficit shows Australians are living beyond their means, consuming more than we are able to produce. Productivity has to increase, or living standards have to fall, if the deficit and consequent rise in foreign liabilities are to be arrested.

Balance of Payments mind map



5.1 STRUCTURE OF AUSTRALIA'S BALANCE OF PAYMENTS

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

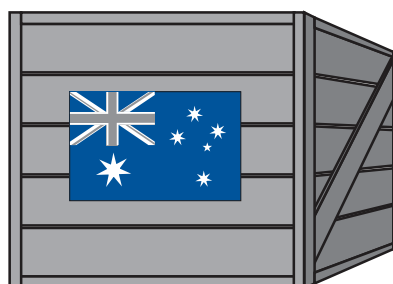
The balance of payments is a record of money flows in and out of Australia, over a given period of time, that arise from economic activity with other countries. The accounts include financial inflows and outflows linked to trade, income and investment. Financial inflows are recorded as credit (or plus) entries and financial outflows are recorded as debit (or minus) entries.

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.

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

What are the sub-sections 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 '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.

What are the sub-sections 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	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.

Why does the balance of payments always balance?

The two main accounts in the balance of payments always match or mirror each other so when the accounts as a whole are added up, they always add to zero. If there is, for example, a deficit on the current account of \$20b in a year, this must be mirrored by a surplus in the capital and financial account of \$20b.

This is true of all economies that have a floating exchange rate. The exchange rate constantly moves from one equilibrium position to another ensuring that the demand for the currency (created by inflows of finance, recorded as credit entries in the balance of payments) equals the supply of the currency (created by outflows of finance recorded as debit entries in the balance of payments).

$$\begin{aligned}\text{Credit entries} &= \text{Debit entries} \\ \text{Demand for the currency} &= \text{supply of the currency} \\ \text{Current Account} + \text{Capital and Financial Account} &= \text{Zero}\end{aligned}$$

Where is the interest if the accounts always balance?

The separation of the flows into sections and sub-sections allows people to examine different aspects of Australia's trade, income and investment flows. It is only the accounts as a whole that must balance. Each sub-section can be in surplus, in deficit or perhaps balanced.

There are a number of sub-totals that appear in the accounts. These include:

- **The balance on goods and services** = balance on goods + balance on services
- **The trade balance** = Visible balance = Exports of goods minus imports of goods
- **Net Invisible trade** = trade balance in services, income flows and transfers

Is the International Investment Position (IIP) part of the balance of payments?

Data about Australia's International Investment Position is included in the Australian Bureau of Statistic Catalogue Number 5302.0 - Balance of Payments and International Investment Position.

The IIP is a statement of Australia's net foreign liability position. The total of net foreign liabilities is the sum of net foreign debt (what is owed to non-residents) and net foreign equity (assets that have been bought by non-residents). These amounts are not flows over a period of time but are levels (or stocks) at a moment in time. Changes in these levels are directly linked to the current account balance. For example if the current account deficit was \$10b this would be mirrored by a foreign investment inflow of \$10b (either through borrowing, or the sale of assets). This, in turn, would add to foreign liabilities and change the IIP.

Student Activity 5.1

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

2. What the difference between a credit entry and a debit entry in the balance of payments accounts? List 4 different types of credit entry and 4 different types of debit entry 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 the Australian charities to the Philippines		
b)	Interest payments made by National Australia Bank to investors in Japan		
c)	Chinese tourists visit the Gold Coast in Queensland		
d)	Sales of iron ore by FMG to steel producers in the Republic of Korea		
e)	Purchase of new Airbus A380 planes by Qantas from Europe		
f)	Australian students enroll at Harvard University, US, to study for a commerce degree		
g)	Profit earned by the National Australia Bank by its UK banking division		
h)	Pensions received from the UK by migrants living in Western Australia		

4. The following data refer to Australia's Balance of Payments for 2013-14.
- a) Goods exports = \$273.8b; b) Service exports = \$57.3b; c) Primary income inflows = \$48.8b; d) Secondary income inflows = \$7.7b; e) Goods imports = \$267.2; Service imports = \$70.8b; Primary income outflows = \$87.8b; Secondary income outflows = \$9.9b
- (a) Enter these data in the table below.
 (b) Calculate the balance on goods and services.
 (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		

5. (a) Why (with a floating exchange rate) must the balance of payments account balance? Why do the separate sections within the accounts add up to zero?

- (b) The balance on Australia's current account in 2013-14 was -\$48.1b. What, therefore, was the balance on the capital and financial account during 2013-14? Explain your answer.

6. If the balance of payments accounts always balance why would they be of interest to anybody?

5.2 THE CONCEPT OF THE CURRENT ACCOUNT DEFICIT

What is a current account deficit (CAD)?

The word 'deficit' refers to a shortfall or deficiency. For example, if a soccer team is losing 0-3 they face a three-goal deficit. In the context of the current account of the balance of payments, the deficit refers to a situation where the level of financial inflow is lower than the level of financial outflow over a given period of time.

$CAD = \text{Outflows on money (Debits)} > \text{inflows of money (Credits)}$.

Australia's current account has been in deficit for most of its history, and consistently for the last four decades. The deficit widened from the early 1980s and averaged around 4 per cent of GDP until the 2000s. The CAD widened further during the resources boom, averaging over 5% per cent of GDP during this period.

What does the current account deficit reflect?

In a direct sense, Australia's CAD reflects the fact that imports of goods and services and income paid to foreign residents exceed exports of goods and services and income received from abroad. The words 'deficit', 'shortfall' and 'deficiency' suggest that a CAD of the balance of payments is a problem or a poor outcome. Indeed in the 1980s high CADs were seen as a source of macroeconomic weakness and a constraint on economic growth. It was generally agreed that economic policies should be targeted at reducing the CAD.

However, it is just as valid to think of the CAD as a situation where the economy has a capital and financial account surplus because:

- The purchase of Australian assets by foreigners exceeds Australian acquisition of foreign assets.
- The level of investment in Australia exceeds the level of national saving.

During the 1990s the view developed that the CAD should not be seen as a problem if the surplus on the capital and financial account was the result of private savings and investment decisions. Indeed the economy had seemed to manage quite well despite several decades of CADs.

The problems experienced by financial markets during the global financial crisis has caused a further rethink showing that, in certain circumstances, high levels of foreign liabilities may, indeed, present a risk to macroeconomic performance.

Student Activity 5.2

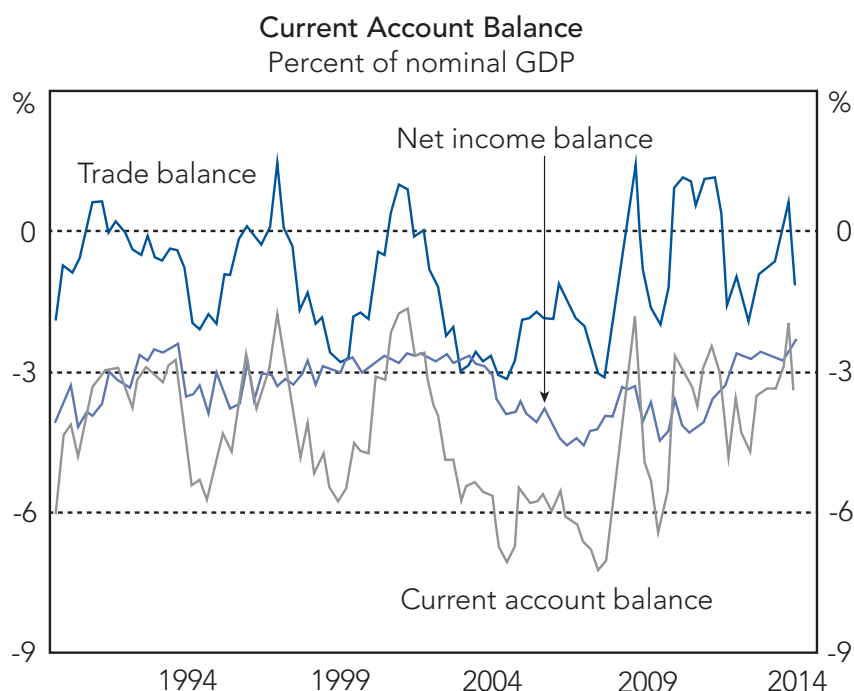
1. In an economy during a year, exports of goods and services are \$250b, imports of goods and services are \$275b, and there are net primary and secondary income outflows of \$35b.

- (a) Is the current account of the balance of payments for this economy in surplus or deficit?

- (b) Is the capital and financial account of the balance of payments for this economy in surplus or benefit?

- (c) Is this current account imbalance likely to be a problem for this economy?

5.3 WHAT HAS HAPPENED TO AUSTRALIA'S CAD OVER THE LAST 10 YEARS?



Student Activity 5.3

- Using the data in the chart and your knowledge of economics, state whether the following statements are true or false.

(a)	The CAD has followed a cyclical pattern	
(b)	The CAD widened during the mining boom (2002-2008)	
(c)	The fluctuations in the CAD reflect changes in the net income balance rather than the trade balance	
(d)	The CAD was about 7% of GDP in 2007-08, the biggest deficit during this period	
(e)	Australia never records a trade surplus	
(f)	The slow-down in mining investment since 2011 has led to an improvement in the current account balance	

5.4 WHAT FACTORS AFFECT THE BALANCE ON GOODS AND SERVICES?

Cyclical factors	
Economic growth in Australia	Growth in Australia means higher incomes, more spending on imports or capital and consumption goods and services.
Economic growth in trading partners' economies	Growth overseas affects the demand for exports such as commodities, manufactured goods and services.
Structural factors	
The exchange rate	A 'high' AUD makes it hard to sell exports and attractive to buy imports. The impact depends on the levels of price elasticity of demand for exports and imports.
Capacity	A shortage of capacity (e.g. skilled workers, production facilities and infrastructure) impacts on elasticity of supply
Terms of trade	When prices of exports and imports change, depending on the level of price elasticity from exports and imports, export and import revenue also changes
Value added	The extent to which Australian producers add value or participate in global value chains affects export and import revenue.
Relative international competitiveness	Exports and imports are affected, for example, by relative inflation rates, relative costs of production and relative quality levels
Shocks	
Outside factors	For example, natural disasters (floods and drought), disease and fear of terrorism.

What factors affect the net incomes deficit?

World interest rates	The higher the level of interest rates, the more Australians have to pay to service their foreign debt
Size of foreign debt	The bigger the size of the debt the more servicing payments that have to be made
Level of foreign investment in Australia	The higher the level of foreign ownership the more dividends and profits that will be sent overseas each year
Returns from foreign investment in Australia	The higher the profits earned by MNCs (e.g. BHP, Xstrata) the more outflows of profits there can be
Australia's credit rating	The credit rating is an indication of the risk associated with lending money to someone. The higher the credit rating the lower the interest you have to pay.

Student Activity 5.4

- Other things being equal what is likely to happen to the balance of trade in the following situations? State whether the cause of the change should be classified as cyclical, structural or a shock?

	Impact on CAD? Why?	Cyclical, structural or a shock?
a) Australia's growth is high, but growth in China is slows down		
b) Australia's growth is low, but growth among our trading partners is strong		
c) Australia's terms of trade worsen due to a fall in iron ore and coal prices		
d) The AUD depreciates against the USD by 30%		
e) A program of infrastructure construction projects improves labour productivity in Australia		
f) Economic reform allows more Australian firms to participate in global value chains		
g) Australia's inflation rate is lower than the inflation rate in our trading partners		
h) Prolonged drought reduces the number and quality of live cattle exports		

5.5 WHAT ARE THE DIFFERING VIEWS AS TO THE SIGNIFICANCE OF THE CURRENT ACCOUNT DEFICIT (CAD)?

View 1 – The CAD is a sign of economic strength

This view holds that:

- Australia has a CAD because we have an inflow of foreign investment.
- We have an inflow of foreign investment because private sector multinational corporations and other investors believe an investment in Australia will be safe, involve little risk and be profitable.
- The inflow of foreign investment and the exports produced as a result of the foreign investment, support the value of the AUD (which makes it harder for other sectors to export and more attractive to import) and lead to an outflow of interest, dividends and profits recorded as a primary income outflow in the current account.
- The CAD is significant because it is caused by a financial account surplus, financing the expansion of further production and export capacity (it shifts the PPF outwards).

This view is a simplified version of the ‘Pitchford Thesis’ and the ‘consenting adults theory’, both of which claim the CAD has little economic significance when it is the result of private sector activity with the aim of reaping the benefits of international trade and investment. The fundamental cause of the CAD is the investment-savings gap created because Australia is ‘resource rich and capital starved’ (our national savings are insufficient to provide the investment finance required). The CAD is sustainable because:

- Foreign investors will continue to look for profitable investment in the Australian economy.
- Debt servicing ratios are manageable.
- Debt to GDP ratios are low by international standards.
- A relatively small proportion of Australia’s foreign debt is sovereign or government debt.

View 2 – The CAD is a sign of economic weakness

This view holds that:

- We are living beyond our means, buying more imports than we can afford given the revenue we earn from exporting.
- Our export performance is poor because Australian producers don’t do enough value added or downstream processing (our exports being mainly unprocessed commodities or simple transformed manufactures).
- The lack of competitiveness of Australian products has turned Australian consumers into import junkies, who prefer imported goods to those made in Australia.
- The CAD is significant because it is unsustainable. The more we borrow and the more assets we sell to non-residents the less we are in control of our own economic destiny.

According to this view the fundamental cause of the CAD is an expenditure-production gap created because we spend more than we earn in income. This is unsustainable because:

- It creates a ‘debt trap’ where a rise in foreign debt leads to a rise in primary income outflows, bigger CADs, and yet more foreign liabilities.
- It makes us vulnerable when global financial markets are not operating normally (e.g. during the global financial crisis).
- We have a limited stock of assets to sell (e.g. agricultural land).

Student Activity 5.5

- Suppose national saving in Australia is \$150b per year (about 10% of GDP) and the demand for investment finance is \$200b per year (to build capacity in the mining sector, construct houses, build infrastructure and so on). 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 will, therefore, 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.	

- What, according to those that see Australia's persistent CAD as a sign of economic strength, is the significance of the CAD?

- What, according to those that see Australia's persistent CAD as a sign of economic weakness, is the significance of the CAD?

4. Read the passage and attempt the questions that follow.

Running a persistent, sizeable deficit on the current account may seem to suggest a fundamental disequilibrium or imbalance in an economy. However, the extent of the problem depends on the cause of the current account deficit.

If the deficit is mainly as a result of a trade deficit this may reflect an underlying lack of international competitiveness or a tendency for people in the economy to live beyond their means and this will have to be addressed. This can't continue for too long because the need to finance the deficit through foreign investment inflows may lead to higher rates of interest and increased interest payments overseas. After a time a 'debt trap' situation may develop where money is being borrowed to pay the interest due on previous borrowing.

If foreign investment inflows are insufficient to match the current account deficit the exchange rate will fall until the two sides of the balance of payments accounts balance again. The fall in the exchange rate will cause inflation and reduce the real income of people in the economy.

If, however, the deficit is mainly due to net primary incomes outflows, this may reflect strong economic performance rather than weak performance. Primary income outflows involve interest payments, dividends and profits caused by previous inflows of foreign investment.

Especially if the investment comes from the private sector, foreign investment inflows, either through borrowing from non-residents or sales of equity to non-residents, suggest investors expect their investment to generate a good rate of return.

The inflow of foreign investment tends to push up the exchange rate value of the Australian dollar, and this, in turn, pushes the trade balance into deficit. A strong economy keeps the debt servicing ratio relatively low, allowing the rising level of foreign liabilities to be financed (or serviced) without any great alarms.

However, even if the economy is performing well, any future disruption in global financial markets could threaten our ability to borrow sufficient money to finance the deficit.

a)	Explain the term 'trade deficit'	
b)	Explain the concept of a current account deficit	
c)	Explain how a current account deficit is financed?	
d)	What is the result of financing a current account deficit?	
e)	What is a debt trap?	
f)	Why will the ER fall if foreign investment is less than the trade deficit?	
g)	Why is a fall in the exchange rate inflationary?	
h)	What policy measures can a government take to prevent people living beyond their means?	
i)	Explain the concept of a financial account surplus	
j)	On what is the financial inflow spent?	
k)	Why does the financial inflow cause a current account deficit?	
l)	How does economic growth help service foreign debt?	

5. HYPOTHETICAL

The data in the table refers to the balance of payments accounts for a hypothetical economy.

Year	Exports (\$b)	Imports (\$b)	Balance on goods and services (\$b)	Incomes balance	Current Account balance	GDP (\$b)	GDP Growth	CAD as % of GDP
1	240	(i)	15	-30	-15.0	900	4.5	-1.67
2	242	237.5	(ii)	-35.6	-31.1	950	5.6	-3.27
3	246	247.5	-1.5	(iii)	-41.3	990	4.2	-4.17
4	248	252.5	-4.5	-41.8	(iv)	1010	2.0	-4.58
5	250	247.5	2.5	-39.8	-37.3	990	(v)	-3.77
6	252	240	12	-36.8	-24.8	960	-3.0	(vi)

(a) Calculate:

i) Level of imports in Year 1 (\$b)	
ii) Balance on goods and services in Year 2 (\$b)	
iii) Incomes balance in year 3 (\$b)	
iv) Current account balance in Year 4	
v) GDP growth rate in Year 5 (%)	
vi) The current account deficit as a percentage of GDP in year 6	
vi) Capital and financial balance in Year 6 (\$b)	
vii) The rise in Australia's foreign liabilities during this 6-year period (\$b)	
viii) The debt servicing ratio (incomes balance / exports) x 100 in Year 4	

(b) With the aid of a flow diagram, explain the concept of a 'debt trap'. Is there evidence of a debt-trap in this economy?

- (c) Describe two policy measures that the government might introduce to reduce the balance on goods and services deficit without causing harm to other aspects of economic performance.

- (d) Should the government in this economy be concerned about the persistent current account deficit?

SO YOU NOW THINK YOU UNDERSTAND THE BALANCE OF PAYMENTS

Key words in definition of balance of payments 1 2 3	Historically Australia's balance of payments accounts record: A current account _____ A primary incomes _____ A financial account _____
Two main sides to accounts 1 2	Two main causes of fluctuations in the size of the current account deficit 1 2
Two broad types of financial flow recorded in current account 1 2	Five structural factors that contribute to the persistent deficit 1 2 3 4 5
Four sub-sections in current account 1 2 3 4	Four links between financial account inflows (i.e. foreign investment) and flows in the current account 1 2 3 4 5
Main broad type of financial flow recorded in capital and financial account 1	Five points to support view that the current account deficit is not a cause for concern 1 2 3 4 5
Three sub-sections in capital and financial account 1 2 3	Five points to support the view that the current account is a cause for concern 1 2 3 4 5
Inflows are recorded with _____ sign and are referred to as _____ entries. Outflows are recorded with _____ sign and are referred to as _____ entries.	
In any account when: outflows > inflows the account is in outflows < inflows the account is in outflows = inflows the account is in Main reason that the balance of payments accounts balance	

REALITY CHECK

Chapter 5: Balance of Payments

1. Australia has a persistent current account deficit because:
 - (a) National savings have been greater than investment expenditure.
 - (b) Investment expenditure is higher than consumption expenditure.
 - (c) The capital and financial account is in deficit.
 - (d) Higher levels of aggregate production than aggregate expenditure.

2. Which of the follow correctly describes a cyclical factor that affects 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 narrow Australia's trade deficit?
 - (a) A 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 a likely, 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 a rise in the level of Australia's foreign liabilities.
 - (b) Persistent financial account surpluses cause a fall in the level of Australia's foreign liabilities.
 - (c) Rising private sector debt threatens Australia's AAA 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 during 2014-15.

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. The balance on current account is:
- (a) -\$5b.
 - (b) -\$8b.
 - (c) -\$43b.
 - (d) -\$45b.
10. The level of net foreign investment into the economy during the year was:
- (a) -\$35b.
 - (b) -\$43b.
 - (c) -\$45b.
 - (d) cannot be calculated from this table.

Question Explain the causes and consequences of Australia’s persistent current account deficit. [20 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
Evaluation / Conclusion	

TERMS OF TRADE



SYLLABUS CHECKLIST

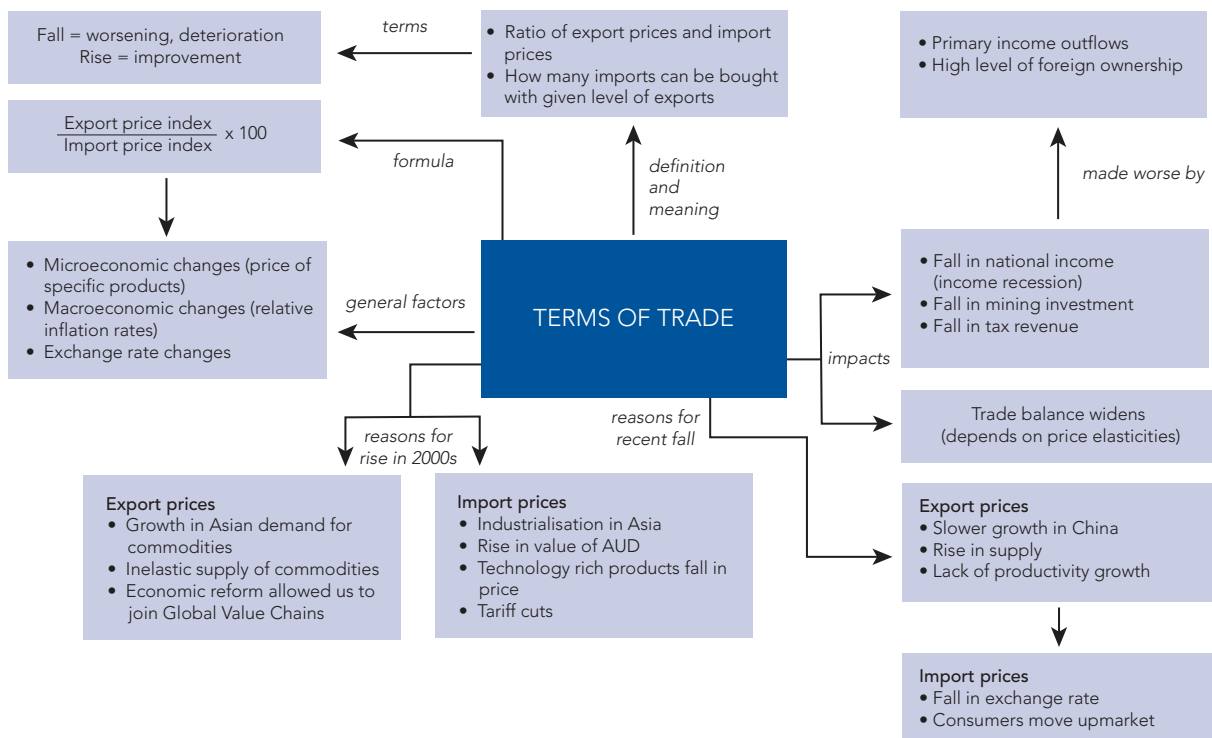
Topics covered in this chapter:

- ☐ The concepts of the terms of trade and the terms of trade index.
- ☐ Factors that affect the terms of trade.
- ☐ Recent (the last ten years) trends in Australia's terms of trade.
- ☐ The significance of changes in Australia's terms of trade.

OVERVIEW – 10 STEPS TO UNDERSTANDING THE TERMS OF TRADE

1	The terms of trade index is a ratio of export prices and import prices. The index is calculated by dividing the export price index by the import price index and multiplying by 100.
2	The terms of trade should not be confused with the balance of trade, which is the difference between export revenue and import payments. However, a change in the terms of trade is likely to affect the balance of trade.
3	A rise in the terms of trade index is referred to an improvement in the index, and a fall in the index is referred to as a deterioration or worsening in the index.
4	In broad terms Australia's terms of trade change because of (i) price movements in specific export and import markets (e.g. the iron ore market); (ii) movements in the overall price level in Australia relative to the price level in other countries (e.g. higher inflation in Australia than in Germany) and (iii) changes in the exchange rate value of the Australian Dollar (e.g. a depreciation of the AUD)
5	Australia's terms of trade rose by almost 90% to the highest level on record during the commodity price boom in the 2000s. Since 2011 they have fallen back but remain at a relatively high level by historical standards.
6	The significance of a change in the terms of trade is their effect on national income. When the terms of trade are stable, national income moves up and down in line with changes in GDP, so GDP data gives a reasonable indication of economic growth, employment prospects and changes in the standard of living. However, when the terms of trade change GDP and national income part company. For example, a fall in commodity export prices means a fall in profits of mining companies, incomes for their workers and tax receipts by the government. Purchasing power falls even when there has been no change in output or GDP.
7	Purchasing power in Australia is further reduced by the outflow of primary incomes in the form of interest, dividends and profits as a result of the high level of foreign ownership in the mineral and energy industries.
8	In 2014 Australia experienced two consecutive quarters of negative growth in gross national income (even though GDP was rising by 2.7% on an annual basis) causing some commentators to claim Australia was experiencing 'an income recession'.
9	The fall in national income associated with the fall in the terms of trade eventually feeds through to lower growth in output or GDP, and a rise in unemployment, due to cut backs in consumption spending, a fall in consumer confidence and an attempt by the government to balance their budget.
10	The impact of a change in the terms of trade on the balance of trade depends on the level of price elasticity of demand in export and import markets. Given that demand for our commodity exports and our demand for imported intermediate, capital and consumption goods is relatively price inelastic, a fall in the terms of trade is likely to widen the trade balance.

Terms of Trade mind map



6.1 DEFINITION AND MEANING

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.

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

So is this the same as the balance of trade?

No! The terms of trade and the balance of trade are different concepts, although a change in the terms of trade is likely to affect 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.

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).

What terms are used to describe a change in a country's terms of trade?

- If the terms of trade index increases the change is described as an improvement in the terms of trade, even though the rise in the terms of trade may not improve the performance of the economy.
- If the terms of trade index falls the change is described as a deterioration in the terms of trade, even though the fall in the terms of trade may not harm the performance of the economy.

So, if Australia's terms of trade is, say, 88 what does this mean?

In 2013-14 Australia's export price index was 93.3, the import price index was 106 and, therefore, the terms of trade index was 88. This means that compared to the base year (2011-12 in this case) export prices had fallen by 6.7%, import prices had risen by 6% and overall the terms of trade had fallen by 12%. The ratio of export prices to import prices was 0.88 to 1.

In general what is the significance of a change in the terms of trade?

The terms of trade are an indicator of how many imports can be purchased from a given level of exports. If the terms of trade improve more imports can be purchased without any increase in exports. For example, after an improvement in the terms of trade more TV sets can be purchased with the foreign currency earned from selling a boatload of iron ore. Equally a deterioration in the terms of trade (which occurred during 2014-15) means a higher level of exports were needed to maintain a given level of imports.

Student Activity 6.1

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

2. The table below shows data for the Australian economy between 2010-11 and 2013-14. Complete the table.

	Export price index	Import price index	Terms of trade index	Value of exports (\$b)	Value of imports (\$b)	Balance of trade (\$b)
2010-11	95.9	97.9		271.6	279.8	
2011-12	100	100		317.2	319.2	
2012-13	90.0	99.6		302.3	321.0	
2013-14	93.3	106.0		331.1	338.8	

3. (a) Complete the following table.

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

(b) What does it mean to say the terms of trade are 85?

4. (a) Assume the price of iron is \$120/tonne and the price of a TV is \$2000.

(i)	How many TVs can be bought with the money earned from exporting 100 tonnes of iron ore?	
(ii)	How much iron has to be exported to raise enough money to buy 6 TVs?	

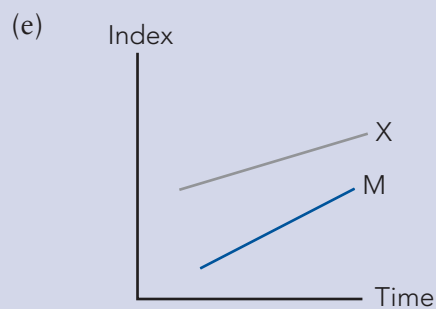
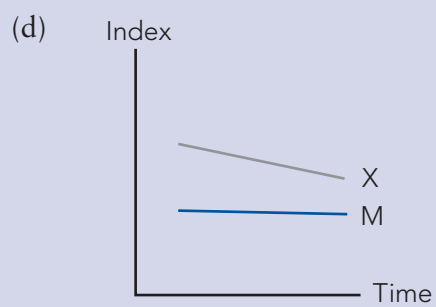
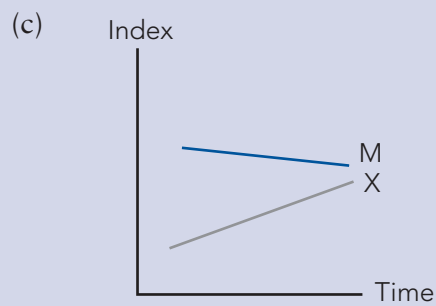
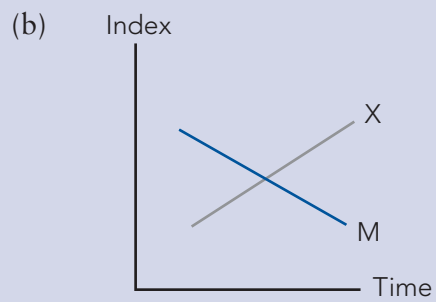
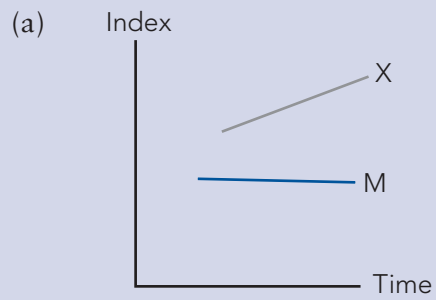
(b) Assume the price of iron ore falls to \$60/tonne and the price of a TV is still \$2000.

(i)	How many TVs can now be bought with the money earned from exporting 100 tonnes of iron ore	
(ii)	How much iron has to be exported to raise enough money to buy 6 TVs	

5. Which of the following are correct statements?

		Correct	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 is the value of exports minus the value of imports		
c)	The terms of trade 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 means more exports are needed to buy a given level of imports		

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



6.2 CAUSES OF CHANGES IN THE TERMS OF TRADE

What can cause a change in the terms of trade?

There are three main causes of a change in the terms of trade.

- **Microeconomic changes:** There may be changes in the demand and supply in the market for a specific product that a country exports and/or imports. For example, an increase in supply of iron ore and a fall in demand for iron ore in 2014-15 led to a fall in the price of iron ore. Australia, as a major exporter of iron ore, experienced a fall in their terms of trade as a result of the price fall.

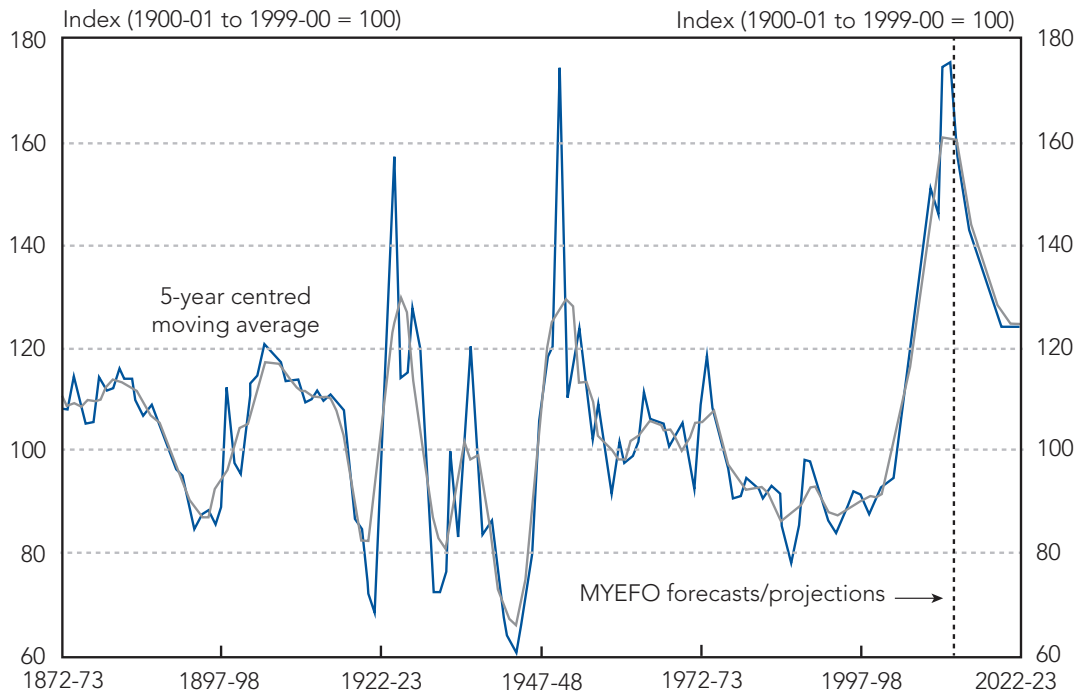
Why might demand change for a specific export or import product?	Why might supply change for a specific export or import product?
Change in price, quality or availability of a substitute product Change in incomes (depending on income elasticity of demand) Change in tastes and fashion Change in population Speculation / hoarding	Change in protectionism (e.g. change in tariff) Change in power of a cartel / commodity agreement (e.g. OPEC) Change in technology (e.g. shale oil) Change in climate / natural disasters (e.g. agricultural products) Speculation / hoarding

- **Macroeconomic changes:** The overall rate of inflation in a country relative to inflation in other countries may change as a result of changes in aggregate demand and/or aggregate supply. For example, if inflation in Australia is relatively high compared to inflation elsewhere, other things being equal, the price of Australian exports will increase faster than the price of imported products bought by Australians, and the terms of trade will improve. This improvement in the terms of trade may not, however, improve the balance of trade – this will depend on the price elasticity of demand for Australia's exports and imported products.

Why might aggregate demand change?	Why might aggregate supply change?
Change in consumption Change in investment Change in government spending Change in net exports	Change in availability (e.g. loss of resources) Change in production costs (e.g. regulations) Change in wages Changes in taxes (e.g. carbon price) Changes in productivity or efficiency

- **Exchange rate movements:** A change in a country's exchange rate can change the price of imports. A depreciation of the Australian Dollar, for example, raises the price of imports into Australia and, other things being equal, causes a deterioration in the terms of trade. Note that a rise or fall in a country's exchange rate does not directly affect the price of exports in the local currency – only in the overseas currency where the exports are sold. However, there will still be an effect on volume of exports sold (dependent on the level of price elasticity of demand for exports) and this may affect the overall level of aggregate demand and hence inflation. If export and import prices are being quoted in a third currency (e.g. Euros) then export prices and import prices both change.

What factors led to the rise and fall in Australia's terms of trade over the last ten years?



Source: www.treasury.gov.au

Australia's terms of trade increased significantly from about 90 in the late 1990s (with the average level between 1900 and 1999 = 100) to 175 in 2013. The terms of trade reached their highest level in history at their most recent peak – about 90% above the average of the preceding century. This was also the longest terms of trade boom in Australia's history. Even with the fall in the terms of trade to a forecast level of 120 by 2022-23, the terms of trade remain at a high level by historical standards.

The rise in the terms of trade was the result of:

- **Steel and energy demand in China:** The rise in the terms of trade was driven by strong demand for steel and energy from China.
- **Inelastic supply in commodity markets:** Uncertainty about the boom's duration initially delayed investment in increased mining capacity and, given the long lead times until the investment became productive, led to an upswing in commodity prices.
- **Appreciation of the Australian Dollar:** The Australian Dollar appreciated as a result of the rising commodity prices and the high degree of foreign-funded investment in the resources sector. The exchange rate appreciation reduced the AUD price of imported goods.
- **Increase in supply of cheap consumer goods:** The steel and energy demand was associated with industrialisation and urbanisation in China on an unprecedented scale. China increasingly provided relatively cheap, mass-produced, manufactured goods (such as toys, clothes and cars) to the world (including, of course, Australia), reducing import prices further.
- **Technological change:** Technological developments (e.g. in computing and electronic products) helped push down the prices of these consumption products.
- **Australian participation in global value chains:** Successful supply-side economic reform policies (such as infrastructure development, labour market reform and trade liberalisation) have enabled some manufacturers to move up the 'value adding' chain and produce and export more valuable elaborately transformed manufactured goods (such as the wing-flaps for Boeing).

What caused the reversal of these trends?

- **Slower Chinese growth:** Slower growth in China, partly as a result of stagnation in some of their key export markets (e.g. in Europe), led to a reduction in demand for a number of key commodities.
- **Supply capacity catches up:** the supply capacity for commodities had increased allowing record quantities to be produced.
- **Depreciation of the Australian Dollar:** The exchange rate value of the Australian Dollar depreciated (from a high of AUD1 = USD 1.10 to AUD1 = USD 0.80 by January 2015) raising the price of imports.
- **Failure to deliver economic reform:** Economic reform stalled in Australia and labour productivity fell making it hard for niche manufacturers to hold on to their export markets.
- **Consumers moving up-market:** Consumers, having become used to high real incomes, have moved to buying more expensive consumer goods (e.g. home theatres and luxury SUVs).

Student Activity 6.2

1. Using a demand and supply diagram, explain why slower growth in China and an increase in supply from iron ore producers caused the price of iron ore to fall during 2014-15. Explain, other things being equal, the impact of the fall in the price of iron ore on Australia's terms of trade?

2. Using an aggregate demand and aggregate supply diagram, show how a fall in the value of the Australian dollar could cause an increase in inflation in Australia. Explain, other things being equal, the impact of the rise in Australian inflation on Australia's terms of trade?

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

4. Explain three factors that contributed to the strong rise in Australia's terms of trade during the 2000s.

5. Explain three factors that contributed to the deterioration in Australia's terms of trade during the period 2012 to 2015.

6.3 SIGNIFICANCE OF CHANGES IN THE TERMS OF TRADE

Why does a change in the terms of trade make real GDP data misleading?

The rate of economic growth is usually measured as the rate of change in real Gross Domestic Product (or real GDP). Normally, the rate of economic growth rate is considered to be an appropriate indicator of the nation's income, future employment levels and changes in the average material standard of living of people in the economy.

The Australian Bureau of Statistics estimates real GDP by taking the nominal or dollar value of the goods and services produced in the economy over a given period of time and then deflating them by the rate of change in an index of producer prices (known as the implicit price deflator index or IPDI).

A change in the terms of trade, however, makes real GDP a less reliable economic indicator of national income and hence the economic activity affected by the level of income.

Since 2012-13 mining commodity prices have been falling causing a corresponding fall in the terms of trade. This means that while the income earned by mining companies has fallen, this has not been reflected in estimates of real GDP because the data is 'real' or adjusted for these price changes. The value of our income and the value of production have parted company. The deterioration in the terms of trade index causes our income to grow at a slower rate than our production.

This matters because of the inter-relationship between production and income: production generates income, and when income is spent this induces more production. So if our real income slows or falls, this dampens our production, employment opportunities and our standard of living.

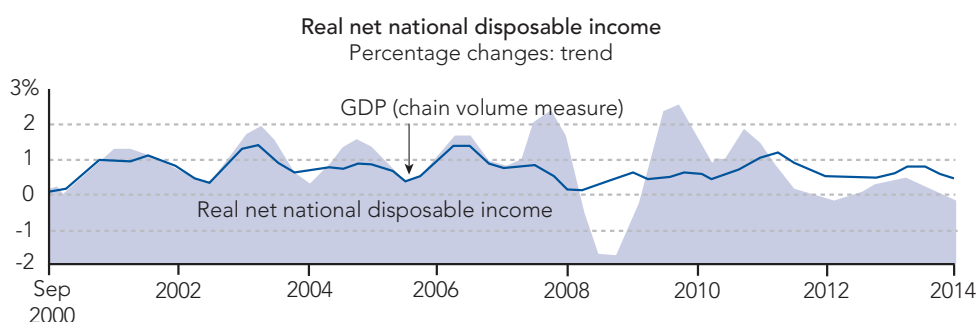
Is there an indicator that allows for changes in the terms of trade?

Real GDP is only one indicator of overall economic activity. The national accounts include a measure of overall economic activity called real gross domestic income (real GDI) that does capture the effects of movements in our terms of trade. Real GDI has grown more slowly than real GDP since 2011.

There is a further problem. The 'D' in GDP or GDI stands for 'domestic', and refers to economic activity that takes place within Australia regardless of the ownership of that economic activity. However, approximately 80 per cent of the income generated by resources exports is paid to the foreigners who own most of our mining companies and who financed most of the new investment. When this outflow of primary income is taken into account the measure becomes GNI, where the 'N' stands for 'national' and this refers only to economic activity involving Australian owned businesses.

Has Australia experienced an income recession?

If there is such a thing, we did! GDP expanded by 0.3 per cent in Q3 2014 but real net disposable income shrank 0.3 per cent, after a 0.2 per cent contraction in Q2 2014.



Source: RBA

Do we live in a real or a nominal world?

Wayne Swann, the Treasurer during the Rudd/Gillard/Rudd Labor Government, reminded anybody that would listen that we live, earn money and pay tax in a nominal world (not one that's already been adjusted for inflation) and that this explained the difficulty the government faced in bringing the Commonwealth budget back to surplus.

The fall in the terms of trade reflects the lower prices producers are receiving for their commodity exports, particular for iron ore and coal. Iron ore, instead of being \$95 a tonne was only \$60 a tonne. Lower export prices meant lower mining company profits, which in turn meant lower collections of company tax (estimated in budget papers to be about \$2.3b in 2014-15 and more in subsequent years).

Can you summarise the last few points, please?

- The most important thing about a fall in the terms of trade is the impact on national income.
- A fall in the terms of trade causes national income to fall, while not directly affecting gross domestic product.
- A fall in mineral and energy export prices, for example, leads to a fall in profits and incomes of mineral and energy producers even if the quantity of output is maintained at previous levels.
- A significant proportion of the economic resources used in the mineral and energy industry are foreign owned. This leads to an outflow of primary income, further reducing the incomes left for Australian nationals.
- The reduction in income levels means a reduction in material living standards (e.g. fewer imported cars and electrical goods), and, as a result of lower tax revenue for the government, reduced government spending on public and merit goods and social security.

Is a change in the terms of trade a zero-sum game?

When the terms of trade rise for one country there must be a corresponding fall in the terms of trade somewhere else. For most of the 2000s Australia benefitted from rising terms of trade that boosted the growth in incomes even more than the growth in production. Our gain was China's loss. China was paying ever-higher commodity prices and receiving lower prices for their consumer goods exports which meant that their incomes rose at a slower rate than Chinese GDP. Since 2011 the situation has been reversed.

Student Activity 6.3

1. Calculate the missing values in the table.

	Change in real GDP (%)	Change in nominal GDP (%)	Inflation rate (%)
Year 1	3	5	(a) _____
Year 2	2.5	(b) _____	0.5
Year 3	(c) _____	1.5	-2%

2. Describe the difference between 'real GDP' and 'nominal GDP'.

3. Why is it significant that we live in a nominal world?

4. Explain why a change in the terms of trade cause measures of output and income to move apart.

5. Explain the difference between 'national' economic data and 'domestic' economic data.

6. Between Q3 2013 and Q3 2014, Australia's real GDP grew by 2.7%. During the same period, the terms of trade fell by 8.9% and real net national disposable income rose by 0.8%.

State two reasons why the growth in net national disposable income was lower than the growth in real gross domestic product.

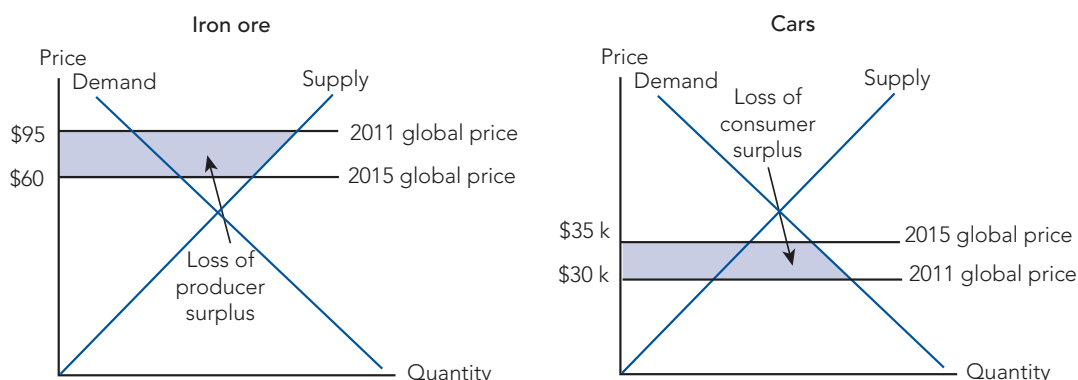
6.4 ECONOMIC MODELS

How can diagrams be used to show the effect of a change in the terms of trade?

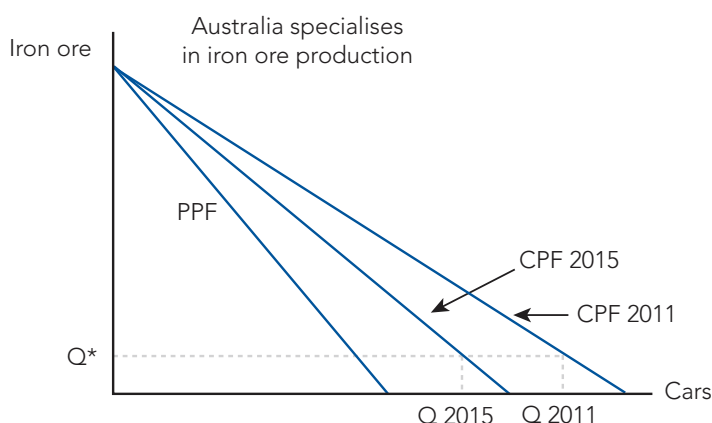
Microeconomic demand and supply diagrams can be used to show the changes in consumer and producer caused by changes in export and import prices.

In the left hand diagram the fall in the global price of iron (as a result of oversupply and a slowdown in China's growth rate) reduces the producer surplus of Australia's iron ore producers. Income is reduced and company tax and royalty payments fall.

In the right hand diagram the price of imported cars has risen (e.g. because of a fall in the exchange rate) and this reduces the consumer surplus of Australian households.

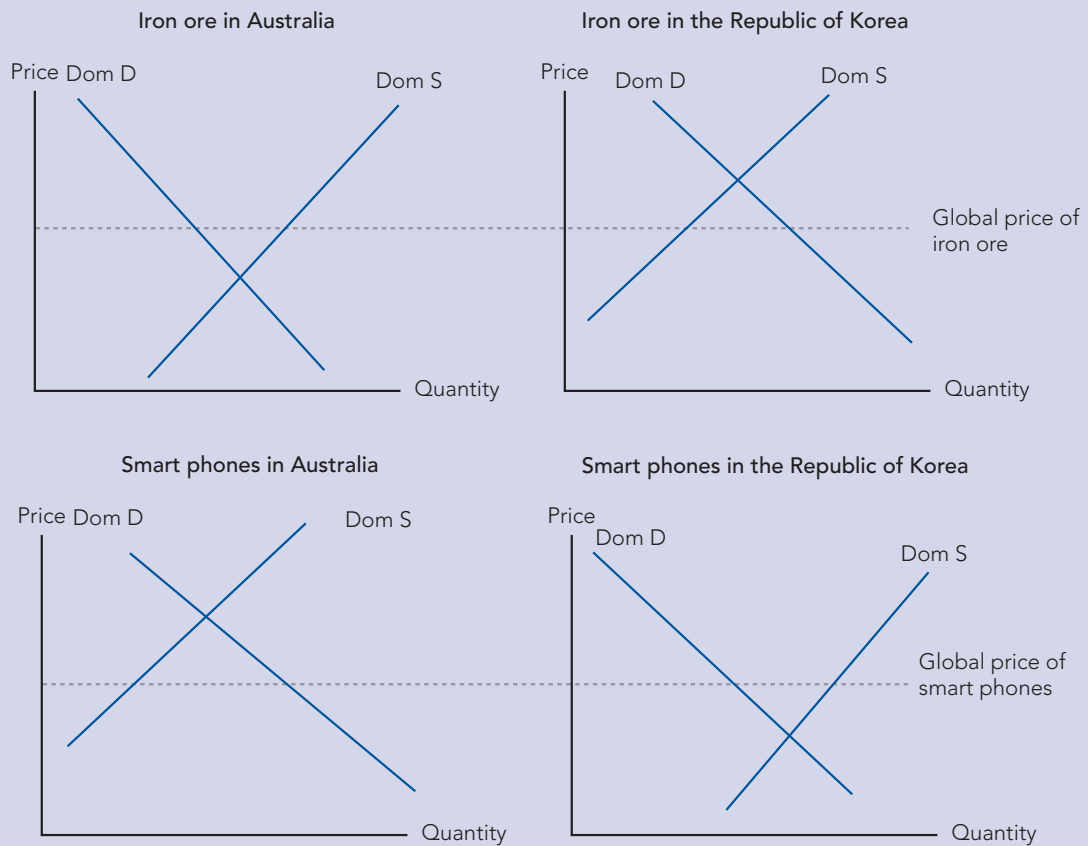


Production possibility and consumption possibility diagrams can be drawn to show the impact of a change in the terms of trade (if necessary see Chapter 2 as a reminder). The PPF shows the Australia production possibility frontier for iron ore and cars. In 2011 the terms of trade were at a record high – a boat load of iron could be traded for lots of cars (Q 2011), but by 2015 the terms of trade had fallen and the boat load of iron ore could now be traded for fewer cars (Q2015).



Student Activity 6.4

- Assume smart phones are exported from the Republic of Korea to Australia, and iron ore is exported from Australia to the Republic of Korea. The diagrams show the domestic demand and supply conditions in the two countries and the global price of smart phones and iron ore.

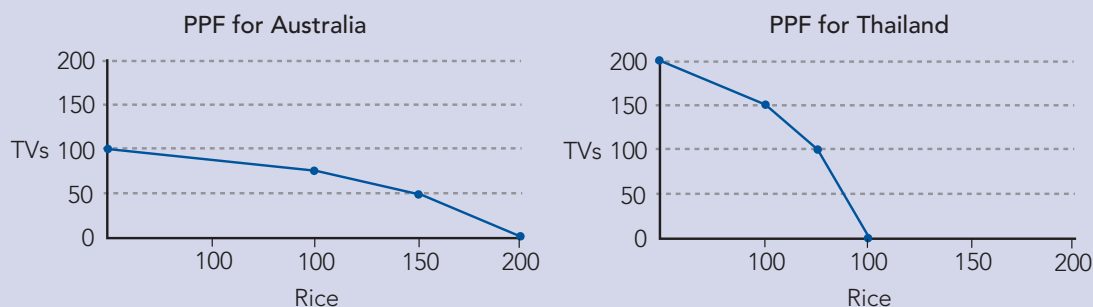


If there is a fall in the global price of iron ore and a rise in the global price of smart phones, what will happen, other things being equal, to:

- The terms of trade in Australia and the Republic of Korea?

- The distribution of the gains from trade between Australia and the Republic of Korea? Show the change in consumer and producer surplus in the two countries on the diagram.

2. The diagrams below show the production possibility frontiers for Australia and Thailand assuming they use their resources to make rice and TVs.



- (a) Before trade Australia produces and consumes 100 units of rice and 75 TVs and Thailand produces and consumes 75 units of rice and 100 TVs. Show this information in the table below.

Pre-trade	Rice	TVs
Australia		
Thailand		

- (b) Trade now takes place between Australia and Thailand allowing the countries to specialise in producing the products in which they have a comparative advantage. Show the outcome of specialisation in the table below.

After specialisation	Rice	TVs
Australia		
Thailand		

- (c) Australia exports 100 TV units of rice and Thailand exports 100 units of rice. Trade takes place at terms of trade 1 unit of rice = 1 TV. Show the post-trade availability of products in both countries.

After trade (1 unit of rice = 1 TV)	Rice	TVs
Australia		
Thailand		

- (d) Suggest four key assumptions that have been made to allow these calculations to be completed.

- (e) Add a consumption possibility line for each country on the diagrams at the start of the question for terms of trade 1 unit of rice = 1 TV and show the consumption point after specialisation and trade has taken place.
- (f) Trade may also have a dynamic effect on the two economies adding to the static gains demonstrated so far. List three possible sources of these dynamic gains.

- (g) The global price of rice now falls relative to the global price of TVs. The terms of trade change to 1 unit of rice = 0.75 TVs (or 1 TV = 1.33 units of rice). Assuming Australia still exports 100 units of rice calculate the consumption point in both countries at these new terms of trade.

After trade (1 unit of rice = 0.75 TV)	Rice	TVs
Australia		
Thailand		

- (h) Explain what has happened to i) production (or GDP) and ii) national income in the two countries as a result in the change in the terms of trade.



6.5 THE TERMS OF TRADE AND THE BALANCE OF TRADE

Do you remember the difference between the terms of trade and the balance of trade?

The terms of trade is a ratio of the average price of a country's exports and the average price of the imports. The balance of trade is the difference between exports values and import values. The terms of trade do not directly indicate anything about the volume of exports and imports and, therefore the value of exports and imports.

Don't price changes affect trade values?

Yes! The effect depends on the reaction of consumers to the price changes or what economists call price elasticity of demand. 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. It is measured by the formula:

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

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. It is measured by the formula:

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

Is it better if PED-exports are elastic or inelastic?

The answer depends on the composition of exports and whether export 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 are rising and demand is price elastic (e.g. manufactured goods and services), this will reduce export revenue.
- If import prices are rising and demand is price inelastic (e.g. capital goods), this will raise import payments. However, if import prices are rising 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 leads 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.

Student Activity 6.5

1. Explain using a demand curve diagram why, if demand is price inelastic, a fall in the price of an exported product (such as iron ore) will lead to a fall in the export revenue for that product.

2. Why is it difficult to generalise about the impact of a change in Australia's terms of trade on its balance of trade?

3. (a) Estimate whether, for Australia, the following export and import products are relatively price elastic or relatively price inelastic.

	Australia's exports	Price elastic or inelastic?		Australia's imports	Price elastic or inelastic?
a)	Mineral commodities		a)	Intermediate goods	
b)	Rural commodities		b)	Capital goods	
c)	ETMs		c)	Consumer goods	
d)	Services		d)	Services	
e)	Overall average		e)	Overall average	

- (b) Australia's terms of trade nearly doubled during the period 2000 to 2010. Suggest two reasons why this was not reflected in a significant improvement in the balance of trade.

4. Draw an aggregate demand and aggregate supply diagram to show how a rise in the terms of trade caused by both higher export prices and lower import prices affects the overall price level in the economy.

SO YOU NOW THINK YOU UNDERSTAND THE TERMS OF TRADE

Formula for calculation of terms of trade	Significance Why more significant for open (trade intensive) economies?
Meaning/significance of terms of trade	Impact on real income/adjustment to GDP
Terms to describe changes Rise = Fall =	Inflation Demand-pull Cost-push
Trends in Australia's terms of trade 2008-12 2013 on	Impact on trade balance depends on...
Four factors affecting export and import prices 1 2 3 4	Elasticity of demand for Australia's exports and imports
Use of models to show effect of change in export and import prices	
1. Sketch consumer surplus/producer surplus models	
2. PPF diagrams showing consumption opportunities shifting further outside PPF as a result of improved terms of trade.	

REALITY CHECK

Chapter 6: Terms of Trade

- 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 in the economy during the year?
 - Fell from +15 to -4
 - Rose from 66.67 to 80
 - Fell from 150 to 125
 - Fell from 114.3 to 95.2
- 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?

- In Year 2, import prices increased at a faster rate than export prices from Years 1.
 - The value of exports fell in Year 3 from the value in Year 2.
 - In Year 3, a given quantity of exports will buy a smaller quantity of imports than in Year 2.
 - In Year 2, the value of exports from this economy decreased from the level in Year 1.
- Which of the following is true if there is a fall in the terms of trade in an economy?
 - More products have to be imported to pay for a given level of exports.
 - Fewer imports can be purchased with the revenue received from a given level of exports.
 - Fewer exports are needed to pay for a given level of imports.
 - The value of the export price index will fall below the value of the import price index.
 - Which of the following is a possible explanation of why Australia typically runs a current account deficit in its balance of payments?
 - A high level of Australia's terms of trade.
 - A low level of national savings relative to national investment.
 - A high level of mineral and energy exports.
 - A low level of consumer confidence in Australia.
 - What is the main consequence of a fall in an economy's terms of trade?
 - An appreciation of the Australian dollar.
 - A widening of the current account deficit.
 - Stronger economic growth in Australia.
 - An improvement in national economic welfare.

6. What is the most likely impact of a significant 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) A decrease in the level of net exports.
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 fall in Australia's terms of trade in 2014-15?
- (a) A rise 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 fall in mineral and energy commodity prices as a result of slower growth in China
 - (d) An increase in the value of dairy products sold to China due to a rise in incomes in China.
9. What was the impact on Australia's terms of trade and trade balance when China's demand for minerals and energy increased as a result of its rapid rate of economic growth?
- (a) Terms of trade deteriorated, but the trade deficit narrowed.
 - (b) Terms of trade improved and the trade deficit narrowed.
 - (c) Terms of trade improved, but the trade deficit widened.
 - (d) Terms of trade deteriorated and the trade deficit widened.
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 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.

Question

- (a) Explain the concept of the terms of trade and describe and account for recent movements in Australia's terms of trade. [8 marks]
- (b) Explain the consequences of a fall in Australia's terms of trade. [12 marks]

Overall scaffold

Body paragraphs

Key terms / Definitions

Diagrams / models

Evaluation / Conclusion

EXCHANGE RATES



SYLLABUS CHECKLIST

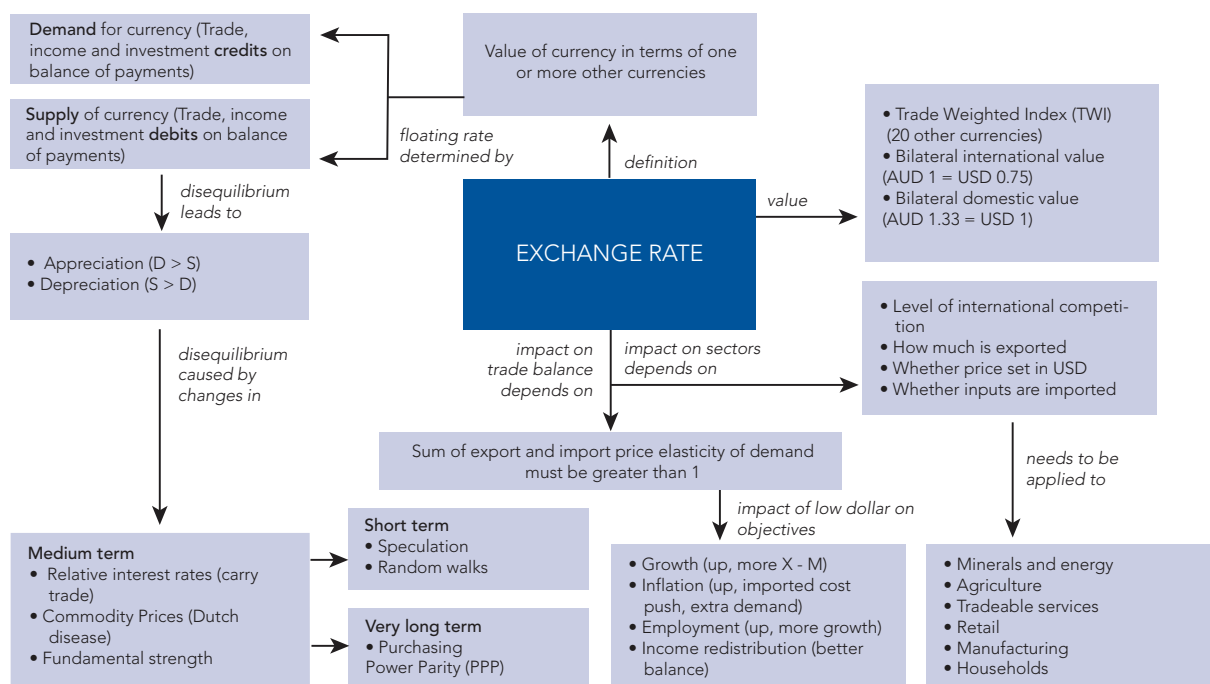
Topics covered in this chapter:

- ☐ The concept of an exchange rate.
- ☐ Demonstrate the determination of, and movements in, the exchange rate (i.e. an appreciation and a depreciation of the exchange rate) under a freely floating system using the demand and supply model.
- ☐ The trade weighted index.
- ☐ Demonstrate the impact of changes in the factors that affect the exchange rate using the demand and supply model.
- ☐ The relationship between the balance of payments and the exchange rate.
- ☐ Effects of movements in the exchange rate on various sectors of the economy.
- ☐ Recent (the last ten years) trends in Australia's exchange rate.

OVERVIEW – 10 STEPS TO UNDERSTANDING 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 the currency rises it is said to appreciate and when the value falls it is said to depreciate.
2	In a freely floating exchange rate regime, the value of the currency is determined by 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	The government and/or their central bank may choose to let the market set the rate without any intervention. Alternatively, they may attempt to change the level of demand and supply for the currency directly, by buying or selling foreign currency reserves on the market, 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 value of 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 risk environment.
5	In the very long run exchange rates may be influenced by the relative level of prices in Australia and other countries and move in a way that creates price parity between both countries. This is called purchasing power parity theory (PPP).
6	In the short run, exchange rates change as a result of sequences of random reactions by speculators.
7	The impact of a change in the exchange rate on the various sectors in the economy depends on (a) the level of international trade in the sector, (b) whether products are priced in Australian dollars or US dollars, (c) the extent of competition in the sector and (d) whether imported inputs (such as capital goods) are important to the sector.
8	The impact of a change in the exchange rate on the balance of trade (exports minus imports) 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 fall in the Australian dollar will narrow a trade deficit and a rise 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 fall in the exchange rate increases the value of Australia's foreign debt. A fall is also likely to increase growth and hence employment but also increase inflation.
10	The Australian dollar appreciated during the 2000s from a low point of USD 0.48 in March 2001 to a high point of USD 1.10 in May 2011. By early 2015 the exchange rate had depreciated to USD 0.75 reflecting, after a time lag, slower global economic growth, a narrowing of the interest rate differential between Australia and other countries and a significant fall in commodity prices and the terms of trade.

Exchange Rate mind map



7.1 THE CONCEPT OF AN EXCHANGE RATE

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.

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. Whichever way is used the value, of course, is the same, but it is expressed in a different way.
- **International value:** How much of another currency is equal in value to one Australian Dollar (e.g. AUD1 = USD0.80)
- **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 the 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, with, for example, the weight of the Chinese Renminbi increasing by 3% in December 2014. The currencies with the biggest weights are included in the calculation until a total of 90% of Australia's trade is reached, with smaller trading partners' currencies excluded. So the composition of the index also changes slightly from year to year, for example, the South African Rand was excluded from the TWI in December 2014 reflecting a fall in trade between Australia and South Africa during 2013-14.

So 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 someone the same purchasing power in Australia and 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 effect of inflation in the long term on exchange rate values.
- as a way of making international comparisons of value, such as comparing the size of the US and Chinese economies.

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 the rise in the value of the AUD 1 from USD 0.50 to USD 0.93 (or USD 1 = AUD 2 to AUD 1.08) during 2009 represented an appreciation of the AUD.

Depreciation: A fall in the exchange value of a floating or market based currency is a currency depreciation. The fall in Australia's trade weighted index during the second half of 2014 from 72.2 to 66.1 represented 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 a devaluation.

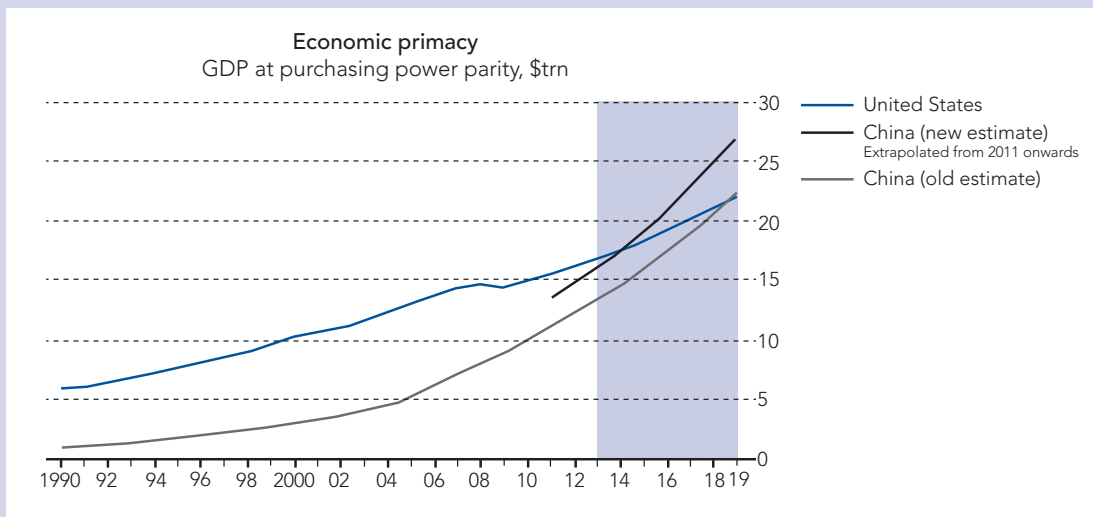
Student Activity 7.1

1. Define the term 'exchange rate'.

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

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. Figures from the International Monetary Fund (IMF) show China has toppled America to become the biggest economy in the world. The US has been the global leader since it overtook Britain in 1872, but it has now lost its status. The IMF figures show the Chinese economy is worth \$17.61 trillion compared with \$17.4 trillion for the US. The analysis is based on a statistic called ‘purchasing power parity’ (PPP), which makes adjustments for the fact that goods are cheaper in China relative to the US. Using current exchange rates, China, at \$10.3 trillion, is still smaller than the US. (Adapted from news stories).

- (a) What is the difference between a purchasing power parity (PPP) exchange rate and the actual market exchange rate?

- (b) According to the data in the passage is the Chinese Renmimbi undervalued or overvalued in relation to the US Dollar? Explain your answer.

- (c) Would you expect market exchange rates and PPP exchange rates to become more equal over time? Explain your answer.

5. The table shows the weights used in the calculation of Australia's TWI.

Currency	Weight (%)	
	1 Dec 2014 - 30 Nov 2015	2 Dec 2013 - 30 Nov 2014
Chinese Renminbi	27.8725	24.8504
Japanese Yen	12.5093	13.1351
United States Dollar	9.7650	9.7833
European Euro	9.2279	9.4263
South Korean Won	5.9646	5.7835
Singapore Dollar	5.1525	5.4943
New Zealand Dollar	3.9440	3.9687
United Kingdom Pound Sterling	3.5313	3.9868
Malaysian Ringgit	3.4650	3.2381
Thai Baht	3.2905	3.6773
Indonesian Rupiah	2.6624	2.6927
Indian Rupee	2.5804	3.1592
New Taiwan Dollar	2.1356	2.3424
Vietnamese Dong	1.6119	1.3467
Hong Kong Dollar	1.4502	1.4607
Papua New Guinea Kina	1.1814	1.2900
Swiss Franc	1.0564	1.0403
United Arab Emirates Dirham	1.0375	1.0608
Canadian Dollar	0.8976	1.0374
Philippine Peso	0.6640	0.6439
South African Rand	–	0.5821

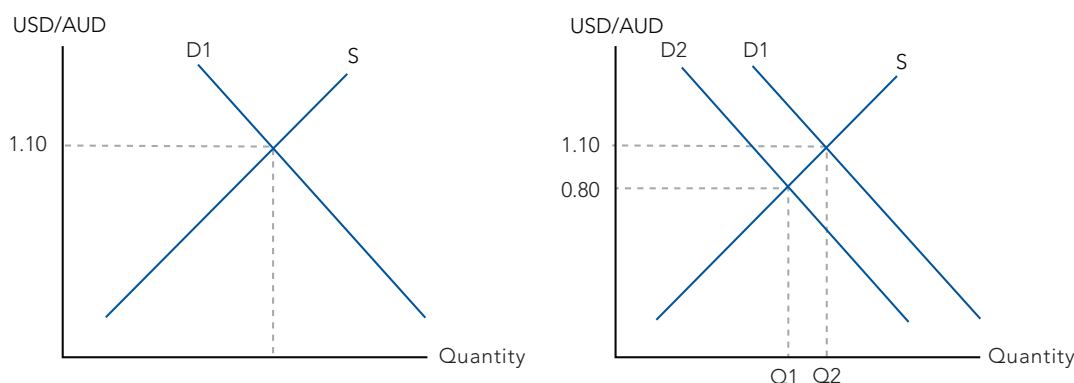
(Source: RBA)

a)	What does TWI stand for?	
b)	List the three countries with which Australia does the most merchandise goods and services trade.	
c)	Why was the South African Rand omitted from the 2015 TWI?	
d)	What data in the table tells you whether trade between Australia and Malaysia rose or fell during 2013-14?	
e)	Why, despite most commodities being priced in USD, does the USD only have a weight of about 9.7%	

7.2 FLOATING EXCHANGE RATES

What are floating exchange rates?

A floating exchange rate is one where the value of the currency is determined in foreign currency markets according to the level of demand and supply for the currency, without any government intervention or management. The market for a currency operates like any other microeconomic market. A fall in demand (D1 to D2) leads to a fall (or depreciation) in the exchange rate. Note that the price of a currency is its exchange rate and this is reflected on the vertical (Y) axis. The exchange rate in the diagrams below is shown as the number of USD equal to one AUD (hence USD/AUD).



Why do people demand Australian Dollars (AUD)?

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.

Why do people supply Australian Dollars (AUD)?

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.

Does the government influence the value of the Australian Dollar?

The market for the Australian Dollar is a relatively 'clean float'. A clean float refers to foreign exchange markets that are free of intervention by the Reserve Bank. If the Reserve Bank does intervene to manage the overall level of demand or supply for the Australian Dollar it would become a dirty or managed float.

How can the Reserve Bank influence the exchange rate?

Government influence or intervention can come in a number of ways.

- **Direct intervention:** The Reserve Bank could directly buy or sell currencies in the foreign exchange markets using Australian Dollars or their foreign currency reserves. The Reserve Bank only intervenes directly to 'test and smooth' the value of the AUD rather than trying to counter any underlying trends.
- **Domestic interest rates changes:** A change in the cash rate and hence domestic interest rates may affect foreign investment flows, and hence the demand and/or supply of the currency. The Reserve Bank will be reluctant to change interest rates for exchange rate reasons if the changes rates will have an unwanted impact the performance of the domestic economy (e.g. slowing growth or increasing unemployment)
- **Jawboning:** The Reserve Bank can try to influence investors' demand and supply for the currency by talking about the level of the exchange rate (a practice known as 'jawboning'). For example, the Reserve Bank attempted to talk down the value of the Australian Dollar during 2014 in their monetary policy statements and speeches.

- **Printing money:** A number of countries have reduced government debt by printing more money (a policy known as quantitative easing). The resulting increase in the money supply leads to lower interest rates and depreciation in the value of their currency. The Reserve Bank has chosen not to join other countries using quantitative easing to boost their economies after the Global Financial Crisis.

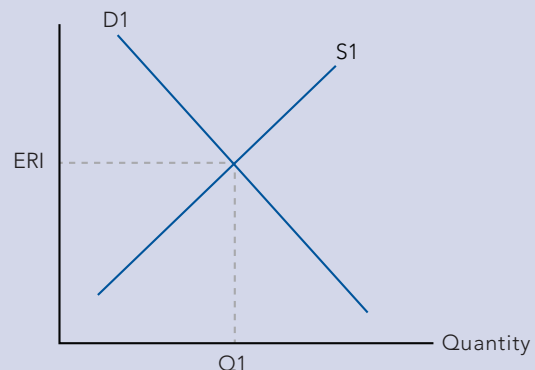
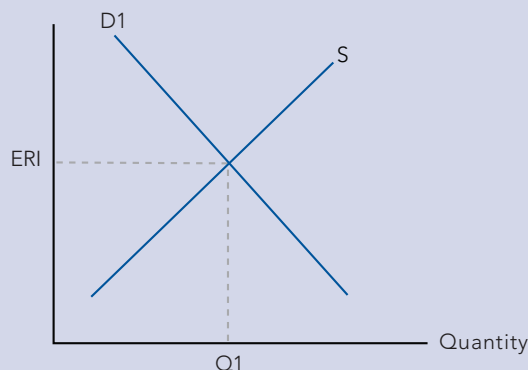
There is a limit to what the Reserve Bank can do.

- They have limited supplies of foreign reserves
- Excessive expansion of the domestic money supply will be inflationary and lead to speculative investment
- Changing interest rates may affect domestic economic performance in an undesirable way
- Talking about the currency may have little impact on currency traders
- They can't control monetary policy settings in other countries, e.g. US and hence can't control the value of other currencies. For example, when interest rates were raised in 2015 the Australian Dollar depreciated against the US Dollar.

Student Activity 7.2

1. Use the diagrams below to show what will happen to the value of the AUD, other things being equal, when the following events happen. Label the axes on both diagrams.

- (a) Rise in interest rates in Australia (b) Fall in level of foreign investment in Australian mining sector



2. Complete the following table by listing four reasons why people demand and supply Australian dollars.

Demand sources: _____ entries in the balance of payments accounts	Supply sources: _____ entries in the balance of payments accounts

3. Complete the table below about the policy measures the Reserve Bank of Australia could take if they wished to bring about a depreciation in the value of the Australian Dollar.

Policy measure	What they could do	Likely effect
Cash rates	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.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

7.3 INFLUENCES ON THE EXCHANGE RATE

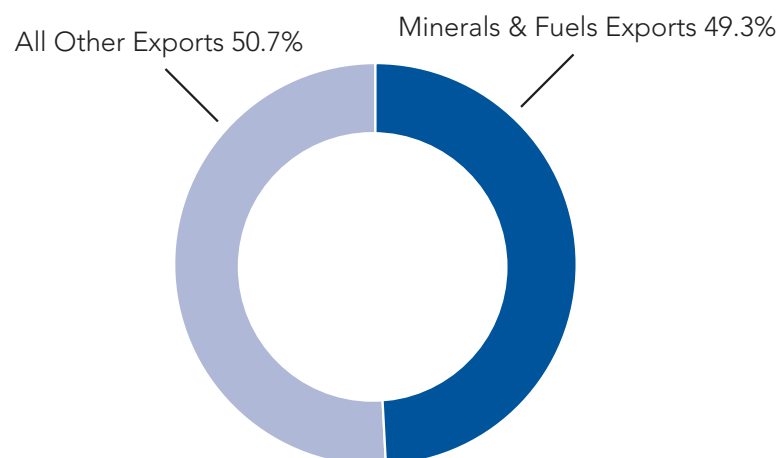
What are the most important factors affecting the value of the Australian Dollar?

In the medium term the value of the Australian dollar is influenced by:

- **Commodity prices and the terms of trade:** There is a relatively strong correlation between the value of the AUD and specific commodity prices (e.g. copper and iron ore) and various commodity price indices. As commodity prices are a strong influence on Australia's terms of trade, there is also a strong link between the value of the AUD and the terms of trade index.
- **Relative interest rates:** If Australian interest rates are higher than interest rates overseas, other things being equal, foreign investors will move their investment into Australian dollar securities (e.g. bank deposits, Treasury bills and corporate bonds). The bigger the differential the stronger the inflow.
- **Fundamental strength of the economy:** The level of international competitiveness of producers in the economy will affect trade flows and investment flows.
- **Relative risk environment:** There is a relatively close relationship between the 'risk environment' and the value of the AUD. When the risk environment and volatility level in financial markets is high, investors tend to look for comfort in traditional 'safe haven' currencies such as the US Dollar, Yen, Euro and Pound Sterling. The Australian Dollar, despite Australia's secure banking system, high credit rating and low level of sovereign (government) debt, is considered to be a relatively risky currency to hold.

Why do commodity prices and the terms of trade affect the exchange rate?

The Australian Dollar is said to be a commodity currency because of the importance of the mineral and energy sector to the Australian economy. Exports of mineral and energy products make up nearly half of Australia's total exports, so a change in the price of one or more of these commodities has an important impact on the level of export earnings and on flows of portfolio and direct foreign investment in the sector. Other things being equal, an increase in the value of exports and foreign investment leads to a rise in the exchange rate and a fall in the value of exports and foreign investment leads to a fall in the exchange rate so the Australian Dollar trades roughly in line with prices in mineral commodity markets, such as the markets for copper and iron ore. Amongst developed economies, the three currencies that have the tightest correlation with commodity prices are the Australian, Canadian and New Zealand Dollars.



What will happen to the AUD now commodity prices are falling?

When, during 2014, commodity prices began to fall the Australian Dollar maintained its value for a while before depreciating in value. The lagged response was due to:

- export values being maintained due to an increase in export volumes. The increase in volumes, however, helped push prices even lower.

- confidence that Chinese growth would stabilise at around 7% per annum and, after adjustment their stockpile of excess commodities would, over time, be reduced.
- other factors were giving support to the AUD (see below).

What is the 'carry trade' and why is Australia involved in this trade?

The 'carry trade' involves international investors borrowing money in their local currency at low interest rates and buying higher yielding assets and securities in other currencies using foreign currency. Australia has been receiving inflows through the 'carry trade' because:

- several countries, such as Japan and US and the Euro Zone, have expanded liquidity as a result of quantitative easing and reduced their interest rates to nearly zero leading investors in these countries to look abroad for higher returns.
- Australian interest rates are higher than Japanese rates.
- most Australian Governments and financial institutions have a 'AAA' credit rating.

Will Australia continue to receive money from the 'carry trade'?

Whether foreign investment continues to flow into Australia to take advantage of higher relative interest rates depends on what happens to economic performance here and in Japan, US and Europe. What happens in 2016 will depend on:

- the level of income growth and unemployment in Australia and whether the Reserve Bank cuts Australian cash rates further
- the level of growth in the US and the timing and extent of changes to US interest rates
- the pace of recovery in Europe and whether Eurozone debt issues are resolved
- whether Japan will continue to follow expansionary policies (known as Abenomics after Shinzo Abe, their Prime Minister) and keep their interest rates low.

Why is the Australian Dollar a risk-off currency?

There is a relatively close relationship between the 'risk environment' and the value of the Australian Dollar. The 'risk environment' refers to the level of confidence of foreign investors and is affected by volatility in international currency, financial and capital markets. There is an index (known as the VIX Index) that is an indicator of volatility and reflects levels of international uncertainty. For example when markets are stable, 'risk' or uncertainty will be relatively low and international investors will be more confident about 'gambling' with their investments and spreading them into 'emerging' economies and currencies (such as the 'fragile five' including Russia, South Africa, Brazil, Indonesia and Turkey). However, when volatility is high, and investing is less predictable, investors look to 'safe haven' countries and currencies (such as US Dollars, Japanese Yen and UK Pound Sterling). The Australian Dollar is not considered to be a 'safe-haven' currency, despite a strong banking system, low level of sovereign debt, low debt servicing ratios and AAA credit ratings, because of our exposure to changing commodity prices and our reliance on inflows of foreign investment.

Doesn't the fundamental strength of a country's economy have something to do with the value of their currency?

It probably does in an indirect way. Investors will consider productivity, inflation performance and growth rates among the many factors they consider when framing their investment portfolios. While Australian fundamentals have been relatively strong, we now have a reputation as a high cost economy, a difficult place in which to do business and having a political system unable to produce a government with enough power to deliver the policy measures needed to improve the situation.

What about the impact of short-term speculation?

Yes, this can affect exchange rates in the short run. Foreign exchange markets can take exchange

rates higher or lower on seemingly inexplicable ‘random walks’. A ‘random walk’ is the path taken by something (in this case the value of the exchange rate) when a sequence of results is determined by random events, or, in other words, by events that cannot be predicted. Information is widely available in foreign exchange markets and is very quickly absorbed into buying and selling decisions. However, when the sequence of new information affecting the markets is random and unpredictable, markets can move up or down by relatively large amounts even when there is no apparent technical reason for this to happen.

Does the price of a Big Mac have anything to do with it?

Purchasing Power Parity (PPP) exchange rate theory predicts that exchange rates will ultimately reflect changes in relative inflation rates (or the cost of living) between trading countries. The Law of One Price states that, if there are no barriers to the flow of products, money and information between countries, consumers will react to any price differences by buying where products are relatively cheap and selling where products are relatively expensive until PPP exchange rates are established and price differentials are eliminated. Big Macs are involved because the *Economist Magazine* uses prices of the Big Macs around the world to estimate PPP rates. If exchange rates are not at PPP rates the real or international purchasing power of a currency will not be accurately reflected in the nominal value of its exchange rate. You will return to this concept at the end of the Chapter.

However, PPP exchange rate theory is not a powerful influence on the exchange rate because:

- All products are not tradable (a Big Mac made in Auckland won’t taste very nice in 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 cities).
- Products are not homogenous (not even all Big Macs are the same – try one from 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).

Student Activity 7.3

1. Briefly describe the three medium 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? Explain why, if this law is valid between countries as well as within a country, inflation rates could determine a country's exchange rate in the long run.

4.

AUSTRALIAN CURRENCY PLUNGE TO HELP EXPORTERS

The Australian dollar has fallen below 0.80 US dollars for the first time in five years and there are forecast that it will go even lower. A National Australia Bank foreign exchange strategist said the sharp fall in commodity prices was responsible for the fall in the value of the currency. "We have seen some significant further pressure on commodity prices and the gold price in particular which historically has a strong relationship with the Aussie dollar," he said. "We think that the value of the US dollar will be supported by expectations that the US Federal Reserve will start to raise interest rates in 2015. That's a combination that makes us think that we're not done with this Aussie down trend and it is perfectly reasonable to expect levels to fall to at least 75 cents during the year", he explained.

(Source: Adapted from news stories in January 2015)

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

- (b) Explain why rising interest rates in the United States might lead to a fall in the exchange rate value of the Australian Dollar.

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

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

6.

AUSTRALIAN DOLLAR CONSIDERED A 'SAFE HAVEN' ASSET

In mid-2014 the Australia's dollar appeared to be behaving like a 'safe haven' asset, with the currency continuing to strengthen in the wake of heightened volatility across global financial markets. While investors have long treated the Australian Dollar as a 'risk' asset, ditching it in times of uncertainty and unrest, in mid-2014, despite increased volatility the dollar held its value, perplexing economists and currency strategists. "There's certainly something going on," HSBC chief economist Paul Bloxham said. "It is being treated more like a safe haven asset with an increased number of foreigners holding Australian government bonds or investing in the local currency".

But NAB global co-head of FX strategy Ray Attrill said the Aussie (at USD 0.94) was "living on borrowed time" and, if there was a big jolt to risk aversion, the currency would weaken. "Certainly, it's still the case that the Aussie dollar tends to trade strongly when risk appetite is strong and poorly when risk appetite is more adverse, so it's a bit of a conundrum there," he said.

Adapted from new stories in mid-2014

- (a) When do investors buy 'safe haven assets'? What makes an asset a 'safe-haven asset'? Use a demand and supply diagram to illustrate what normally happens to the value of the Australian Dollar when there is increased volatility and uncertainty in global financial markets.

- (b) Explain the conundrum (or puzzle) surrounding the value of the Australian Dollar in mid-2014.

- (c) Discuss whether or not the fall in the currency since mid-2014 supports the view that the Australian Dollar has become a 'safe-haven' currency.

- (d) Explain why economists and currency strategists are often perplexed by movements in the value of the Australian Dollar.

7.4 IMPACT OF EXCHANGE MOVEMENTS ON SECTORS OF THE ECONOMY

Will the fall in the value of the Australian dollar help rebalance the economy?

Economic growth in China, the rise in mineral and energy commodity prices and the mining investment boom led in the 2000s to an appreciation of the Australian Dollar. While mineral and energy producers were able to cope with the high dollar, other sectors found it difficult to remain competitive, leading to a 'two-speed', patchwork or unbalanced economy. The depreciation of the currency in 2014-15 will provide the non-commodity producing sectors with some relief. At least, a floating currency allows the exchange rate to adjust with changes in the domestic and global economies.

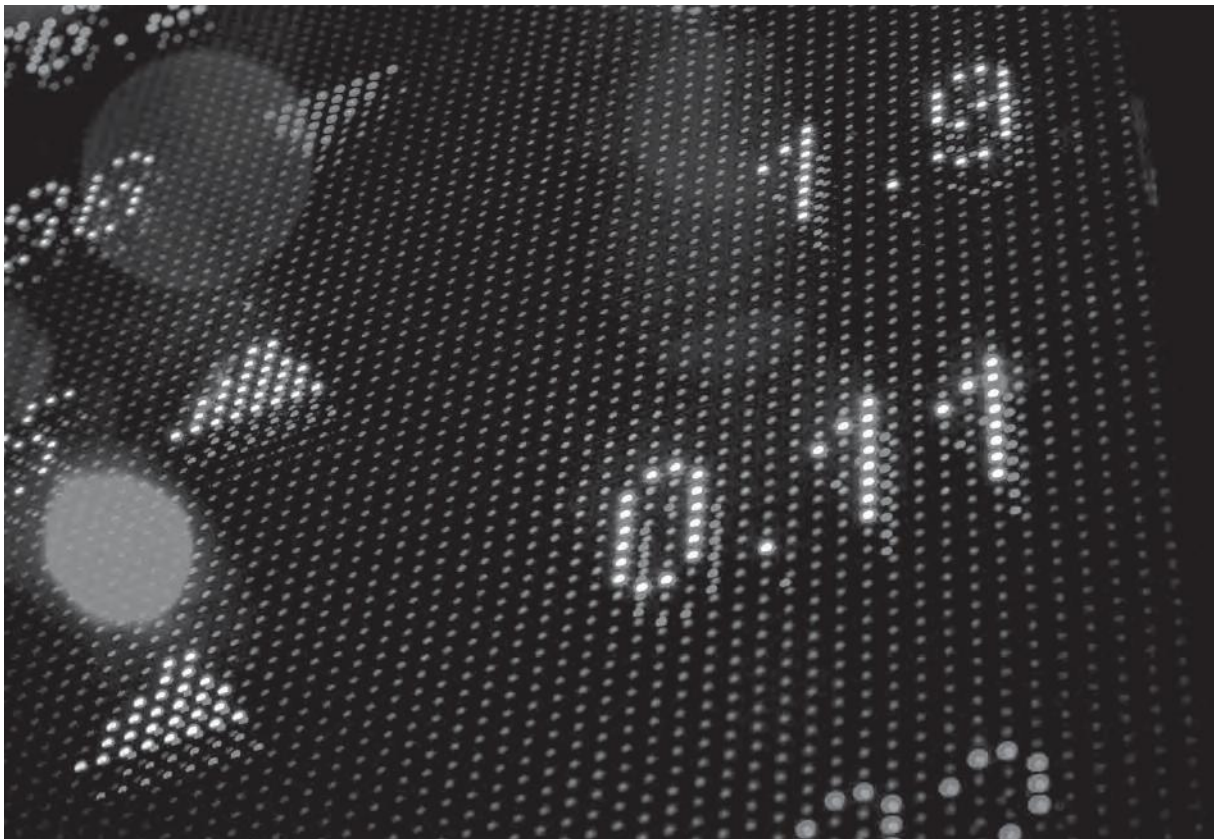
Has the Australian Dollar always been a floating currency?

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.

Why does a change in the currency impact on different 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 a sector (i.e. how important trade is for a firm).
- 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).



What was the impact of the high dollar on some specific sectors?

Sector	Reliance on international trade	Prices set in AUD or USD	Price elasticity	Dynamic efficiency
Mining sector COPED WITH HIGH DOLLAR	Very high	USD – sales unaffected but profits fall when money converted to AUD	Price inelastic (especially given strong demand from China)	Highly productive and efficient
Manufacturing industry (low value, high volume, e.g. cars, clothes) HIT BY HIGH DOLLAR	High	AUD – priced out of markets (offset by fall in prices of imported capital goods)	Price elastic	Limited by labour and other government regulations, but some able to adapt
Manufacturing industry (high value, low volume, e.g. medical equipment, ships, in global value chains) HIT BY HIGH DOLLAR	High	AUD	Price inelastic	Highly productive and efficient
Rural sector Producers and processors HIT BY HIGH DOLLAR	High for many producers Some compete against imports	Many in USD (e.g. wheat, wool, meat) Some in AUD (e.g. fish, wine, fruit) Fall in cost of imported machinery	Price inelastic for homogenous commodities Price elastic for imports (e.g. brands of tinned fruit)	Limited by finance and natural events. Some able to increase productivity. Limited by labour market regulation
Service sector (e.g. tourism, education) HIT BY HIGH DOLLAR	High for many suppliers	AUD – priced out of markets	Price elastic	Limited opportunity
Retailers HIT BY HIGH DOLLAR	Medium influence of on-line sales	On line shoppers pay in AUD (and avoid GST on purchases below \$1000)	Price elastic	Limited opportunity
Households HELPED BY HIGH DOLLAR	20% of products imported	AUD – benefit from cheaper products and increased competition	Price elastic	Able to shop on-line

Student Activity 7.4

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. The following business strategies could help a business adapt to a high exchange rate.
 - Cutting export prices (lower profit margins) to maintain competitiveness and market share.
 - Sourcing components and raw materials from overseas.
 - Seeking productivity / efficiency gains to keep unit labour costs under control
 - Develop new products where both domestic and overseas demand is more price inelastic and less sensitive to exchange rate fluctuations.
 - Develop products with a higher income elasticity of demand, where non-price factors are more important in securing orders.
 - Move production overseas (out-sourcing).

Choose a specific manufacturing industry and explain how three of the strategies listed above could help them adapt to a high exchange rate.

3. Complete the following table.

Statement	Agree or disagree (with your logic / reasoning)
a) Farmers will benefit from the lower dollar	
b) The weaker dollar will make London seem expensive to Australian tourists	
c) The weaker dollar will help car workers get their jobs back	
d) Electrical goods will become more expensive due to the fall in the AUD	
e) Miners and farmers have to pay more for their capital equipment when the AUD falls	
f) A retiree living on a UK pension gets more income when the AUD falls	
g) Wine makers will benefit for increased exports when the dollar falls	
h) Copper and zinc exporters gain profits when the AUD falls in value	
i) Margaret River tourist operators expect more visitors as a result of the lower dollar	

7.5 IMPACT ON ECONOMIC PERFORMANCE

Will a fall in the Australian dollar narrow a trade deficit?

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 is 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 narrow a 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.

So what is the sum of the combined price elasticities for exports and imports?

Overall the sum of price elasticities 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, a 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

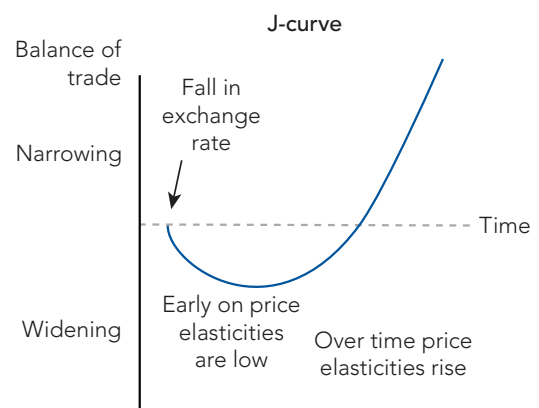
Will a change in the exchange affect exports and imports straightaway?

Probably not! In the short run, elasticity for most exports and imports is likely to be relatively inelastic. Buyers take time to adjust their pattern of consumption – contracts have been written and marketing plans put in place. In time, these change and the extent of the reaction to the more competitive exports in foreign markets are more expensive imports in domestic markets (i.e. demand will become more elastic).

Is this what is shown on a J-curve?

Yes! The J-curve shows that, In the short run, when price elasticity is low, a fall in the exchange rate actually causes a trade deficit to widen, but, with time, when price elasticity increases, the trade deficit starts to narrow.

The narrowing in the trade deficit shown on a J-curve assumes that 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.

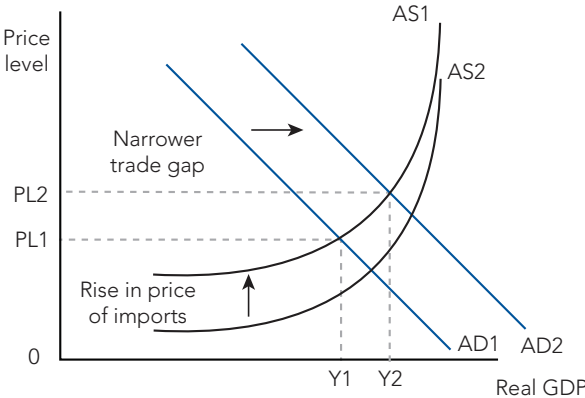
Does a change in the exchange rate change the level of Australia’s foreign debt?

Yes! A rising or high dollar will directly reduce the Australian dollar value of the proportion of Australia’s overseas debt that is denominated in foreign currency. 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 not great.

What is the impact of a depreciation in the Australian dollar on the domestic economy?

Assuming the Marshall-Lerner condition is satisfied and the lower dollar leads to a narrowing of the trade deficit, it will also lead to an increase in aggregate demand.

The lower dollar may also cause aggregate supply to shift in an upward direction because some import prices will rise (e.g. imported components and capital equipment).



The overall effect is higher inflation and increased economic growth. Higher growth will tend to lead to higher employment, especially in areas where the lower dollar has increased competitiveness (e.g. in manufacturing and services). The distribution of income in the economy probably becomes more balanced as a result.

Student Activity 7.5

- 1. Explain the medium term impact of a lower dollar on the following macroeconomic variables, assuming that price elasticity of demand for exports and imports is more than 1.

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	

2. Using an AD/AS diagram show why a falling exchange rate is inflationary.

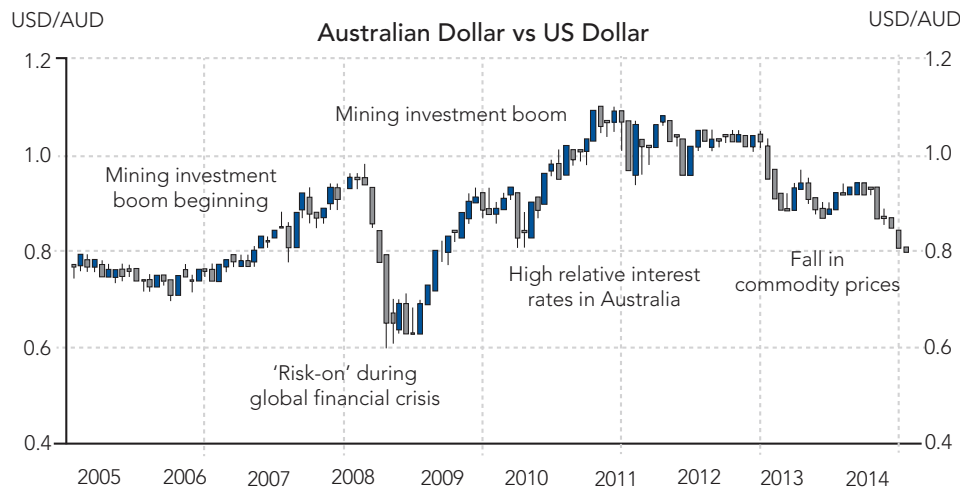
3. Use a search engine to find out about the 'Dutch Disease'. Why did the Dutch Disease lead to deindustrialisation? Did the mining investment boom give Australia a form of the Dutch Disease?

This image shows a full page of white paper with horizontal blue or grey ruling lines, typical of notebook paper. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

7.6 RECENT TRENDS IN THE VALUE OF THE AUSTRALIAN DOLLAR

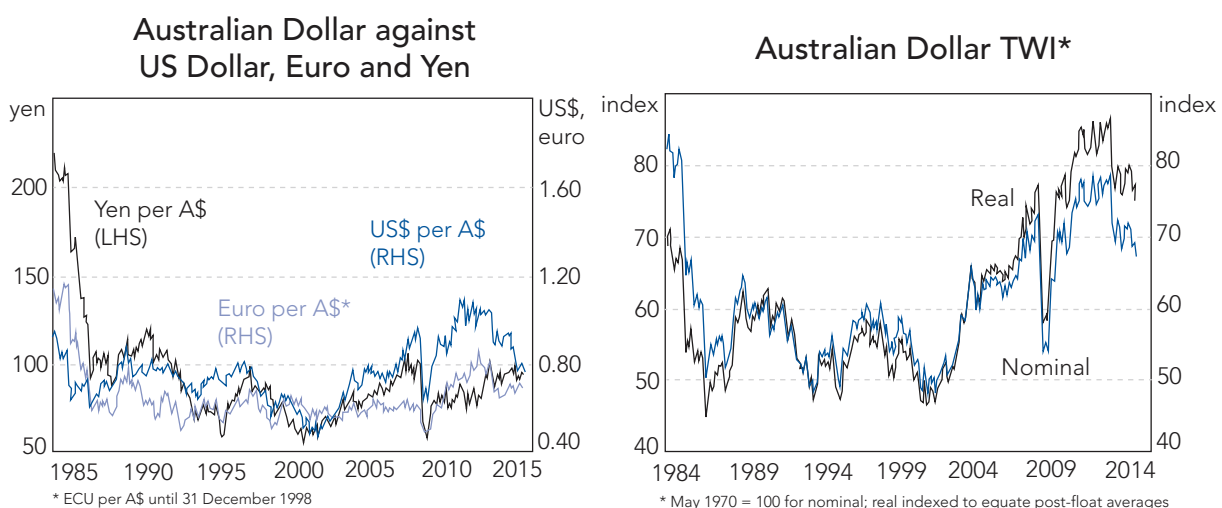
What has happened to the value of the Australian Dollar in the last ten years?

Ten years ago (in 2005) the Australian Dollar was continuing to appreciate against the USD having reached a low point of USD 0.48 in March 2001. The upward trend was interrupted for a short while during the global financial crisis when the risk environment deteriorated, falling back to 0.60 by the end of 2008. However, with the mining investment boom in full swing and relatively high interest rates in Australia, the upward path was resumed to reach an all time high of USD 1.10 in May of 2011. It remained close to parity until May 2013, after which it began a downward trend to reach USD 0.80 by early 2015.



Adapted from tradingeconomics.com/australia/currency

There are specific factors affecting the value of individual currencies so the Australian dollar does not appreciate and depreciate against all countries by the same amount. The chart on the left shows a different trend path for the Australian Dollar against the Yen (due to Japanese quantitative easing and fiscal stimulus program) and the Euro (continuing sovereign debt problems for Greece, Italy, Spain and Portugal). The right hand chart shows average movement of the Australian Dollar measured by the Trade Weighted Index.



Source: ABS, RBA, Thomson Reuters, WM/Reuters

What is the difference between a nominal and a real exchange rate?

The diagram below shows the Trade Weighted Index in both real and nominal terms. The nominal TWI states the value of the Australian dollar in terms of the weighted average value of the currencies of 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.

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

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 similar quality wine in Europe = 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 = $20 \times 0.8 = \text{EUR } 16$
- The cost of bottle of similar quality wine in Europe = EUR 15

So with EUR 16 a consumer could buy 1.067 bottles of German wine ($=16/15$) if it is possible to buy such an amount. Applying the formula, the real exchange rate is:

0.8 (the nominal exchange rate) $\times 20$ (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, in the real world, the real TWI 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. Goods purchased on-line from overseas appeared to be relatively cheap (and not only because GST can 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 amount of stuff in other countries when converted into their currencies, exchange 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 7.6

1. A country's exchange rate is over-valued if its value makes most sectors in the economy uncompetitive. State two reasons for believing the Australian Dollar became overvalued during the mining investment boom.

2. Discuss whether the current level of the Australia is closer to an equilibrium level than was the case for most of the last ten years.

SO YOU NOW THINK YOU UNDERSTAND EXCHANGE RATES

Definition of exchange rate	Four policy options to reduce value of AUD 1 2 3 4
Different ways of describing bilateral rates 1 2	Impact of lower exchange rate on sectors Mining Rural sector Large scale manufacturing Niche, high-end manufacturing Services (tourism, education) Retail services
Two points about calculation of TWI 1 2	Impact of lower exchange rate on economic performance On balance on goods and services 1 2
Terminology Upward float = Downward float = Upward change in 'fixed' rate = Downward change in 'fixed' rate =	On foreign debt 1
Draw diagram to show how floating rate is determined.	On growth 1 2
Demand for currency Three credit entries in balance of payments 1 2 3	On employment 1 2
Supply of currency Three debit entries in balance of payments 1 2 3	On inflation 1 2
Factors affecting the value of the AUD Long term (perhaps) 1 Medium Term 1 2 3 Short-term 1	On income distribution 1 2 Performance of AUD in last 10 years 1 2 3

REALITY CHECK

Chapter 7: Exchange Rate

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 65. What is the name given to this broad measure and how is its value interpreted?
 - (a) The consumer price index and the value of the currency has risen by 60% from the value in 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 major currencies.
 - (d) The trade-weighted index and the value of the currency is 60% of the 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. As a result of below trend growth and a rise in unemployment it is anticipated that the Reserve Bank will continue to reduce cash rates. Anticipation of this happening, other things being equal, will lead to:
 - (a) A decrease in the demand for the AUD and an appreciation in the value of the AUD.
 - (b) A decrease in the supply for the AUD and an appreciation in the value of the AUD.
 - (c) A decrease in the demand for the AUD and a depreciation in the value of the AUD.
 - (d) A decrease in the supply for the AUD and a 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 for imports is price elastic.
 - (b) Increase the price of imports and increase the value of imports if demand for imports is price inelastic.
 - (c) Reduce the price of imports and increase the value of imports if demand for imports is price inelastic.
 - (d) Increase the price of imports and decrease the value of imports if demand for imports 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 depreciation of the Australian Dollar during 2014-15 reflected:
 - (a) A reduction in volatility in financial markets.
 - (b) A rise in the gap between Australian interest rates and rates in other countries.
 - (c) A fall in the value of the US Dollar as a result of tighter monetary policy in the US.
 - (d) A fall in commodity prices.

Question (a) Describe the factors that determine the demand and supply of the Australian Dollar? [8 marks] (b) Explain the relationship between a change in the exchange rate and structural change in the economy? [14 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
Evaluation / Conclusion	



SYLLABUS CHECKLIST

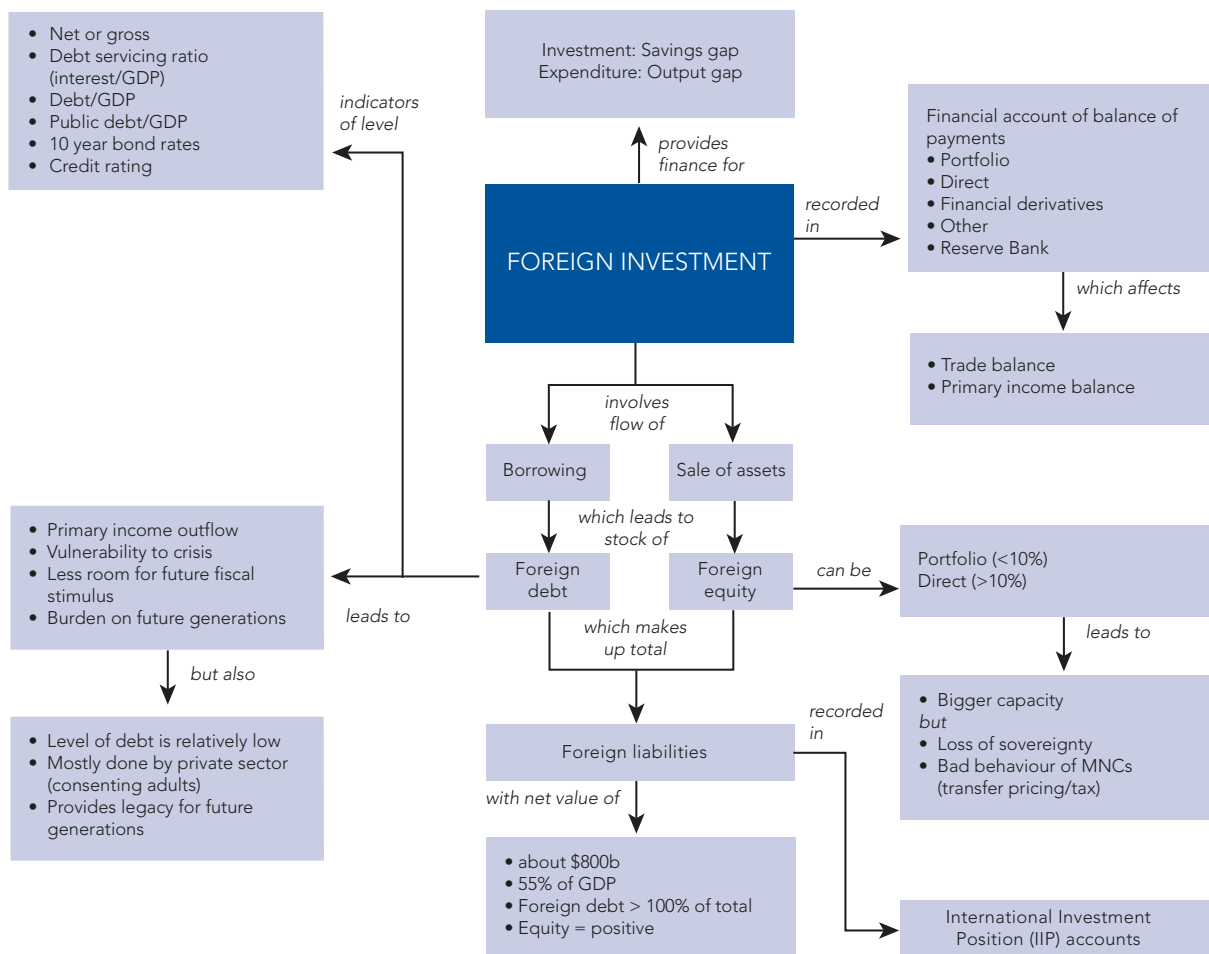
Topics covered in this chapter:

- ☐ The concept of foreign investment in terms of foreign assets and foreign liabilities.
- ☐ The concept of foreign liabilities, i.e. foreign debt and equity.
- ☐ The relationship between the current account outcome and foreign liabilities.
- ☐ The extent of, and recent (the last ten years) trends in, Australia's foreign direct investment and foreign debt.
- ☐ Benefits and costs of foreign direct investment and foreign debt to Australia.

OVERVIEW – 10 STEPS TO UNDERSTANDING FOREIGN INVESTMENT

1	The term 'foreign investment' refers to the cross-border movement of finance associated with borrowing and lending and the purchase or sale of assets.
2	Flows of foreign investment are recorded in the financial account in the balance of payments. There are five sub-sections in the financial account and these are headed: portfolio, direct, financial derivatives, other and Reserve assets.
3	Inflows of foreign investment create a stock of foreign liabilities. The two forms of foreign liabilities are foreign debt and foreign equity.
4	The level of foreign liabilities is described in Australia's International Investment Position (IIP). The Australian Bureau of Statistics includes the IIP in the balance of payments data.
5	Australia's net foreign liabilities have stabilised at a level around 55% of GDP. Net foreign debt accounts for over 100% of the foreign liabilities because the value of net foreign assets is positive (due mainly to a rise in the value of superannuation funds' holdings of foreign shares).
6	Most of Australia's foreign debt is held in the private sector, particularly by banking sector.
7	Australia relies on an inflow of foreign investment to fund our investment-savings gap. Any assessment of the advantages and disadvantages of foreign debt and foreign equity has to take this into account.
8	Australia's net foreign debt is not a matter of great concern at present. As a percentage of GDP it is relatively stable and the level of primary income outflows associated with sustaining and servicing the debt are manageable and low by international standards. However, the debt could make us vulnerable should things change, such as a new global financial crisis or global downturn.
9	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 of extra competition and economies of scale and the technology transfers involved. However, foreign equity also implies a loss of economic sovereignty.
10	However, multinational businesses do not always behave in a way that promotes our national interest through, for example, their tax avoidance measures and the employment of overseas workers.

Foreign Investment mind map



8.1 FOREIGN INVESTMENT AND FOREIGN LIABILITIES

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 in the financial account and involve financial inflows that result from borrowing or 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 purchase of overseas assets.

In the balance of payments accounts the flow of foreign investment is recorded in five sub-sections:

- **Direct:** 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 to be able to do this.
- **Portfolio:** The purpose of portfolio foreign investment is 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 that time (the futures price) for delivery and 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 currencies, gold and their Special Drawing Rights (SDRs) position with the International Monetary Fund.

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. The stock of foreign liabilities comprises:

- **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 which is the total of Australia's overseas borrowing or net foreign debt which is 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.

So foreign investment is a flow of money and foreign liabilities are a stock of value?

Yes! A flow measure is an amount of money over a period of time, while a stock measure is a value (expressed in dollar terms) at a specific moment of time. A flow of borrowing leads to an increase in the stock of debt and a flow of asset purchases leads to a change in the stock of ownership.

What is the link between the current account outcome and the level of foreign liabilities?

When the exchange rate floats freely, the current account outcome of the balance of payments must be mirrored in the capital and financial account outcome. For example, if the current account deficit in a given year is \$50b, the capital and financial account must be in surplus by \$50b. As the capital account outcome is usually relatively small, the financial account outcome is approximately equal to the current account outcome. Foreign investment is recorded in the financial account and foreign investment impacts on the level of foreign liabilities.

Student Activity 8.1

Year	Current Account Deficit (\$b)
2012-13	45
2013-14	30
2014-15	25

1. Assume that a country's net foreign liabilities are \$750b at the end of 2011-12, and that the table shows the current account deficits recorded in the economy in the next three years. Estimate the level of foreign liabilities at the end of 2014-15, stating how you made your estimate.

2. The data refers to the Australian economy.

Year	Gross Foreign Liabilities (\$m)	Gross Foreign Assets (\$m)	Net foreign liabilities (\$m)
End of 2004-05	1200	750	(a)
End of 2014-15	(b)	1800	875

- (a) Calculate the level of net foreign liabilities at the end of the 2004-05
- (b) Calculate the level of gross foreign liabilities at the end of 2014-15
- (c) In gross terms what was the level of overseas assets owned by Australians at the end of the financial year 2008-09?
- (d) Calculate the percentage rise in net foreign liabilities between 2004-05 and 2014-15.

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?	

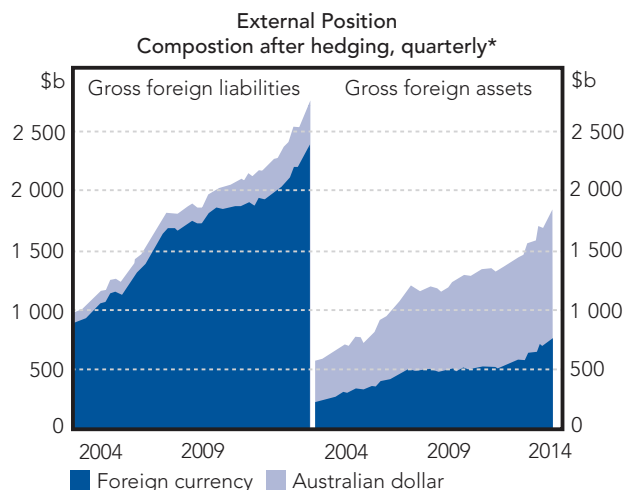
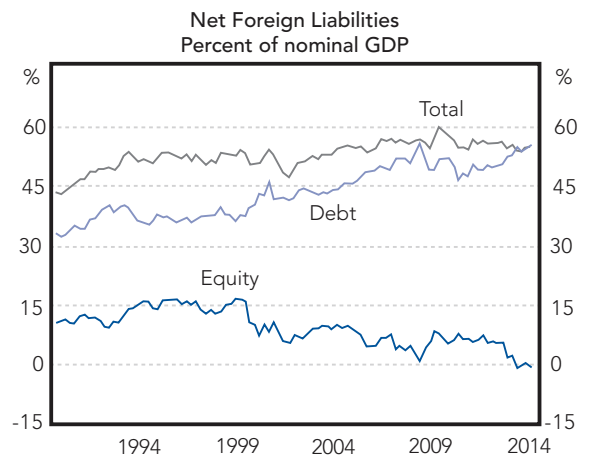
8.2 WHAT IS AUSTRALIA'S INTERNATIONAL INVESTMENT POSITION (IIP)?

Levels at end of period (September 2014) (\$m)	
International Investment Position	875,254
Net foreign equity	-7 617
Net foreign debt	882 871

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). More than 100% of Australia's net foreign liabilities are in the form of foreign debt. This is because the value of net equity is just positive (i.e. we have net worth in equities rather than net liabilities of equities) due to a revaluation of stock markets around the world lifting the value of money invested overseas by Australian superannuation funds.

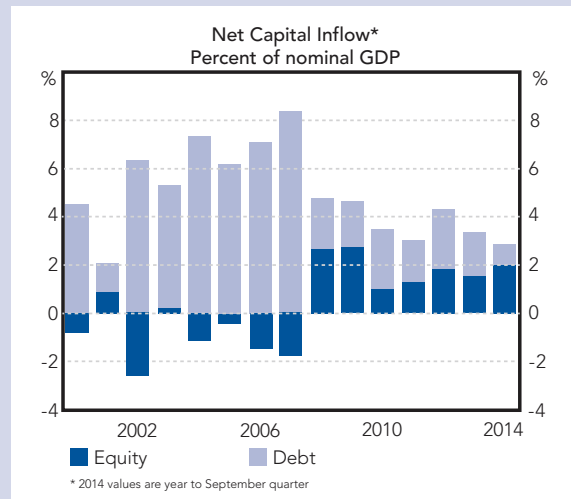
The charts show:

- Net foreign liabilities have stabilised at about 55% of GDP.
- Gross foreign liabilities were about \$2,675b at the end of 2014 but after allowing for gross foreign assets of about \$1,800b the net international investment positions was about \$875b
- All of Australia's net foreign liabilities is now debt
- Since the Global Financial Crisis, capital inflows have resulted from both borrowing (debt) and from sales of assets (equity). In 2014 foreign investment inflows were about 3% of GDP, or about \$45b (close to the size of the current account deficit).



* Hedge ratios inferred from ABS Foreign Currency Exposure surveys

Student Activity 8.2



1. What percentage of Australia's foreign liabilities are net equity liabilities?

2. State the current size of Australia's net foreign liabilities:
 - (a) in dollars _____
 - (b) as a percentage of GDP? _____

3. How does Australia acquire gross foreign assets?

4. Why do you think equity became a more important component of foreign investment after 2007?

8.3 BENEFITS AND COSTS OF FOREIGN DIRECT INVESTMENT AND FOREIGN DEBT

Are there any alternatives to foreign investment inflows?

In nearly every year since Federation, Australia has had a current account deficit and a capital and financial account surplus. This situation is the result of:

- **An Investment – Savings Gap:** Australia has been described as a resource rich, but capital starved nation. This means Australia has become a capital-importing nation because our national savings are not large enough to finance all the investment needed to develop the capacity to produce and export commodities and to build the associated infrastructure. National saving is the sum of household, corporate and government saving. There is some national saving but not enough to finance all our investment needs. If Australia is to achieve long-run sustainable economic growth, employment opportunities and rising living standards for its citizens, there is no alternative to foreign investment inflows.
- **An expenditure – production gap:** If aggregate expenditure ($C+I_p+G+X$) is greater than the value of production (GDP), the gap between the two has to be imported. These imports lead to a trade deficit that, in turn, has to be financed by inflows of foreign investment. The cause of the expenditure – production gap might be:
 - **Over-spending:** Australian households or Commonwealth and State governments might be spending beyond their means.
 - **Under-producing:** Australian producers might not be internationally competitive because, for example, there is too little processing or value-adding, productivity is too low, wage rates are too high or regulations create too much of a cost burden.
- If the current account deficit and consequent foreign investment inflow is caused by a gap between expenditure and production, there is an alternative, namely consuming less and becoming more productive.
- **Net incomes outflow:** Once a stock of foreign liabilities has developed, the outflow of primary income in the form of interest, dividends and profits can perpetuate a current account deficit. At present, the net primary income outflow is about 3% of GDP each year. This creates a form of ‘debt trap’ where money is borrowed to pay interest on money borrowed previously. An economy in this situation has no alternative but to continue to sustain and service its debt, short of defaulting on its repayment.

Student Activity 8.3

1. State why Australia needs a net inflow of foreign investment.

2. What is an investment-savings gap? Why does Australia have an investment-savings gap?

8.4 BORROWING AND FOREIGN DEBT

What are the twin-evils of foreign investment?

There are two so-called 'twin-evils' linked to foreign investment and foreign liabilities:

- **Net Foreign Debt:** A build-up of debt as a result of persistent borrowing
- **Net Foreign Direct Equity:** A loss of economic sovereignty as non-residents buy assets in Australia, such as mines, farming land and residential property

But are these 'twin-evils' as bad for economy as the name suggests? Is one type of foreign liability better than the other?

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) if 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 became 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. Private sector foreign debt is reduced by closing the investment-savings gap by a reduction in investment and/or an increase in the level of corporate and household saving. The end of the mining investment boom over the next few years will help close the investment-savings gap, but it will be difficult for a resource rich, capital starved economy, such as Australia, to run a current account surplus.

What indicators can be used to 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. 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 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.

Why isn't Australia worried about its foreign debt?

There are a number of reasons for taking a relaxed view over 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 outlined above are all relatively low by international and IMF standards. Borrowing has helped the economy to sustain economic growth and 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.
- **CAD seems 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.

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 approaching \$300b, there will be less scope to deal with the next sharp economic slowdown, should one occur.
- **Rising interest rates:** A rise in interest rates will cause a rise in the cost of servicing the debt. Currently, interest rates are at record low levels, but they will rise eventually when global economic growth picks up, increasing the possibility of developing a debt trap. 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).

Student Activity 8.4

1. What are the twin-evils of foreign investment?

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. Read the passage below and then attempt the questions that follow the extract.

Despite Australia's big current account deficits and the growing foreign debt they have produced, most people are relaxed about the situation. Australia's current account deficits have averaged about 4.5% of GDP since the float of the dollar in 1983. We have current account deficits because we import more than we export, have large net outflows of primary incomes and because we are a capital-importing country, needing to use the savings of non-residents to finance our required level of investment expenditure.

Over the next few years the need for imported capital will be reduced by the end of the mining investment boom, a reduction in government borrowing as the budget is returned to surplus, an increase in household saving and continued corporate saving through retained company profits.

Overseas investors seem happy to continue to lend us money and invest in Australia. The Australian economy has performed relatively well since the last recession in 1991 as a result of better management of aggregate demand and improvements to the supply-side of the economy. However, the global financial crisis showed that financial markets can stop working and rolling-over existing debt as it matures can become a problem.

- (a) Outline three reasons why the Government and Reserve Bank are taking urgent action to reduce Australia's current account deficits and growing foreign debt.

- (b) In what circumstances might Australia's foreign debt become a cause of concern?

8.5 FOREIGN EQUITY

Can you provide some background information about net foreign equity?

Gross foreign equity increases when overseas citizens, governments or businesses buy assets in Australia. Net foreign equity is the value of foreign owned assets minus Australian ownership of assets overseas. Buying assets in across national frontiers is part of the process of globalisation.

FOREIGN INVESTMENT IN AUSTRALIA 2013

(\$m) Rank	Country	Level of direct investment in Australia	Level of total investment in Australia
1	United States	149,479	657,888
2	United Kingdom	86,663	562,881
3	Japan	63,257	130,982
4	Singapore	25,177	60,544
5	Hong Kong (SAR of China)	7,378	51,337
6	Switzerland	19,096	47,145
7	Netherlands	29,371	36,965
8	China	20,832	31,899
9	New Zealand	5,068	30,124
10	Canada	16,576	26,882
Total all countries		629,941	2,461,998

Source: www.dfat.gov.au

What is foreign direct investment?

Foreign direct investment (FDI) is a form of foreign equity investment. An investment that involves the purchase of 10% or more of the equity in a business or property is defined as Foreign Direct Investment (FDI). It is closely associated with multinational corporations (MNCs) which are businesses with production facilities in more than one country. MNCs have an important presence in industries such as minerals and energy production (e.g. iron ore, coal, oil), car production (e.g. General Motors Holden, Toyota and Ford), banking and finance (e.g. Citibank, Robobank) and retail and property (e.g. Westfield).

Why do overseas corporations undertake FDI in Australia?

The Australian Commonwealth and State governments generally encourage FDI and investors are attracted to Australia for a numbers of reasons.

- **Opportunities for profit:** For example, MNCs such as BHP, Chevron and Xstrata look to profit from the production and sale of Australia's natural resources.
- **Security of supply:** For example, Chinese sovereign wealth funds may buy mining companies and agricultural land to secure security of supply in these areas.
- **Availability of other resources:** Australia has a relatively educated and skilled labour force and a good transport and communications infrastructure.
- **Political stability:** Compared to other naturally resource rich countries (e.g. in Africa, South America and Russia) 'sovereign risk' as a result of, for example, government take-overs, wars and civil unrest is low in Australia.

- **Government incentives:** State Governments may offer MNCs incentives such as tax concessions, direct and indirect subsidies, to locate in their States.

How does Australia benefit from this FDI?

- **Helps close the investment–savings gap:** It is a source of foreign investment finance needed to supplement our national savings.
- **Helps exploit comparative advantage:** FDI helps create capacity in industries in which we have a comparative advantage (e.g. in mineral and energy production, agriculture and tourism)
- **Triggers a multiplier process:** FDI not only directly creates economic growth and new employment opportunities but also does this indirectly, for example, in supply industries such as transportation, catering and health and safety.
- **Encourages technology transfer:** FDI allows access to new technologies as foreign companies often transfer technology to Australia when they invest. This increases Australia's international competitiveness and allows Australian firms greater opportunity to participate in global value chains.
- **Raises government revenue:** MNCs provide revenue for the Commonwealth and State governments (e.g. through company tax and royalty payments). This revenue helps fund public and merit goods and services providing benefits to a broad section of the community.
- **Drives productivity growth:** FDI promotes productive efficiency, for example, through the use of new management and work practices, the introduction of new technologies and from an increase in competition.
- **Promotes exports:** In addition to increasing output capacity and international competitiveness, MNCs may provide easier market access to the country of origin of the FDI.

Are there also some problems with FDI?

- **Loss of ownership and control:** FDI reduces economic sovereignty because key decisions affecting our economy are made overseas.
- **Outflow of dividends and profits:** There is an outflow of dividends and profits associated with FDI, adding to the outflow of primary income in the current account of the balance of payments. This reduces the level of income that flows to Australians from generation of our GDP.
- **Bad behaviour by multinational corporations:** The benefits of FDI may be reduced if MNCs indulge in the following:
 - **Tax avoidance:** For example, through transfer pricing where a MNC effectively sells to themselves across international borders at prices that reduce profits in countries where the output took place. The opportunities are there because intra-company trade accounts for about one third of all trade.
 - **Export of jobs:** MNC's may offer employment to overseas workers rather than local workers, for example, to do management or skilled work
 - **Increasing monopoly power:** Rather than increasing competition in Australia, MNCs may increase concentration and gain monopoly power in the market.
 - **Operating against the national interest:** MNC's may operate in the interests of country of origin of the FDI, for example, by preserving rather than producing resources. This is more likely when the investment is done by a government backed sovereign wealth fund.
- **Australian investment overseas:** There are, of course, Australian owned MNCs undertaking FDI overseas. While these should generate an inflow of primary incomes some investments are not successful (e.g. National Australia Bank's investment in UK banks). Investment overseas increases the investment-savings gap in Australia.

AUSTRALIAN INVESTMENT OVERSEAS			
\$m Rank	Country	Level of direct investment abroad	Total Australian investment abroad
1	United States	121,691	471,672
2	United Kingdom	50,558	255,672
3	New Zealand	45,871	81,138
4	Germany	12,249	56,518
5	Canada	28,814	53,716
6	Japan	477	50,225
7	Switzerland	na	38,301
8	Singapore	8,951	35,409
9	France	1,087	33,931
10	Netherlands	7,018	33,461
Total all countries		494,844	1,632,201

Source: www.dfat.gov.au

Student Activity 8.5

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

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

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

4. Outline two advantages to the nation of obtaining foreign savings in the form of equity rather than debt.

5. Outline two advantages to the nation of obtaining foreign savings in the form of borrowing rather than through foreign purchases of assets.

6. 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?

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

SO YOU NOW THINK YOU UNDERSTAND FOREIGN INVESTMENT

Two reasons why Australia needs foreign investment inflows 1 2	Four reasons why foreign debt is not a cause of concern for Australia. 1 2 3 4
Two main forms of foreign investment 1 2	Four reasons why foreign debt may become a cause of concern for Australia. 1 2 3 4
Definition of foreign liabilities	Top three countries of origin of foreign direct investment finance 1 2 3
Two main forms of foreign liabilities 1 2	Three industries where MNCs have an important impact 1 2 3
Difference between gross and net foreign investment Gross = Net =	Four advantages to Australia of FDI 1 2 3 4
Difference between portfolio and direct foreign investment Portfolio = Direct =	Four problems associated with FDI 1 2 3 4
Three other types of foreign investment recorded in financial account of balance of payments: 1 2 3	Four ways foreign investment affects the current account of the balance of payments 1 2 3 4
Three quite interesting facts about Australia's foreign liabilities 1 Level? 2 Debt or equity? 3 Private or public?	
Five indicators of size and burden of foreign debt 1 2 3 4 5	

REALITY CHECK

Chapter 8: Foreign Investment

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 level of Australia's foreign liabilities is recorded 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) accounts known as Australia's International Investment Position.
3. Which of the following will occur as a result of the sale of 15 per cent of the shares in an Australian company to a Chinese company?
 - (a) An increase in foreign debt and decrease 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 indirectly creates employment because it provides 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 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 coalmine?
 - (a) An increase in borrowing recorded on the financial account of the balance of payments.
 - (b) Coal exports recorded on the goods account in the balance of payments.
 - (c) An outflow of dividends and profits recorded on the primary incomes section of the balance of payments.
 - (d) Imports of mining equipment recorded on the goods section of the balance payments.
9. Which of the following is a reason why Australia's foreign liabilities impose a burden on future generations?
 - (a) All of the foreign liabilities will 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.

Question (a) How does foreign investment affect financial flows in the current account of the balance of payments? [8 marks] (b) Discuss the advantages and disadvantages of foreign direct investment in Australia. [12 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

ECONOMICS

UNIT 4





SYLLABUS CHECKLIST

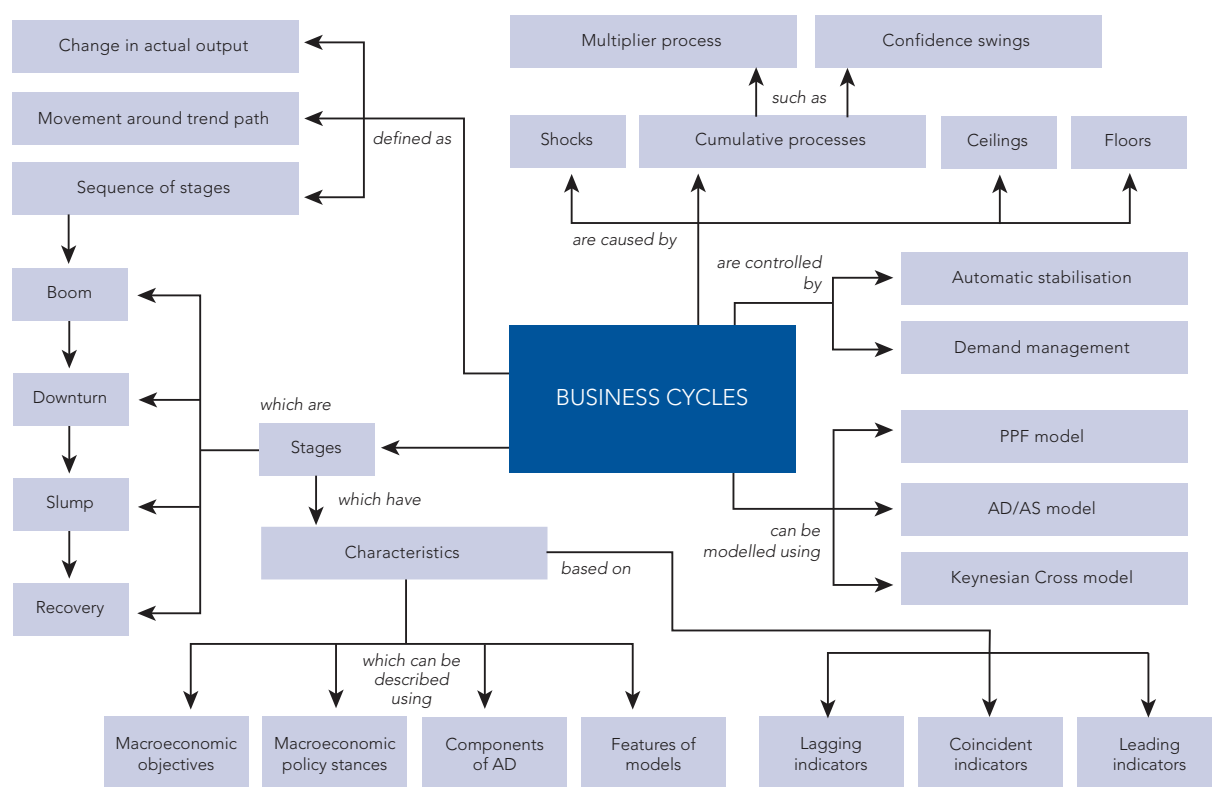
Topics covered in this chapter:

- ☐ The concept of the business cycle.
- ☐ Characteristics of the phases, and causes, of the business cycle.
- ☐ The relationship between the business cycle and economic indicators.

OVERVIEW – 10 STEPS TO UNDERSTANDING BUSINESS CYCLES

1	The business cycle shows how an economy is travelling over time. The business cycle model or diagram shows the typical short-run growth path followed by an economy where total output moves above and below the long-term average or trend path.
2	The business cycle model suggests that an economy passes through a regular sequence of stages or phases; boom to downturn or recession, to slump or trough, to recovery or upswing and back again to a boom.
3	In practice economies do not follow clear business cycles. It is not always easy to detect a clear sequence of stages from charts or tables of data. For example, several countries have experienced a 'double dip recession' after the Global Financial Crisis where a weak recovery has not been sustained. This does not mean the model of the business cycle is unhelpful in helping us understanding changes in the level of economic activity.
4	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 when the economy is operating at full capacity. In a boom the output gap is small (possibly even negative) and in a slump it is large.
5	This cyclical path of an economy is the result of the combined effects of: • Cumulative processes, such as multiplier processes and changes in consumer and business confidence • Upper and lower turning points, caused, for example by supply shortages and consumption of necessities respectively • Automatic stabilisers e.g. through the tax system and welfare spending • Discretionary government policy changes, e.g. changes to cash rates • Periodic demand and supply-side shocks, e.g. floods and geo-political events
6	There are lots of data indicating the state of the economy. These data can refer to: • Macroeconomic objectives such as growth, inflation and unemployment rates • Components of aggregate demand, leakages and injections such as consumption and planned investment • Features of economic models, such as the size of the output gap • Policy settings such as interest rates and the government's budget balance • Other indicators such as cranes on the city skyline and levels of concrete production
7	Indicators may provide data about what the economy has been doing (lagging indicators), what the economy is currently doing (coincident indicators) and what the economy will soon be doing (leading indicators).
8	Indicators may provide data about the aggregate macro-economy (general indicators) or about parts of the micro-economy (partial indicators).
9	Australia's economic performance has been good compared to most other developed economies.
10	However, the Australian economy is now stuck 'in second gear' with below trend growth and slowly rising unemployment largely due to our trade and investment links with other countries (e.g. China, Japan and US).

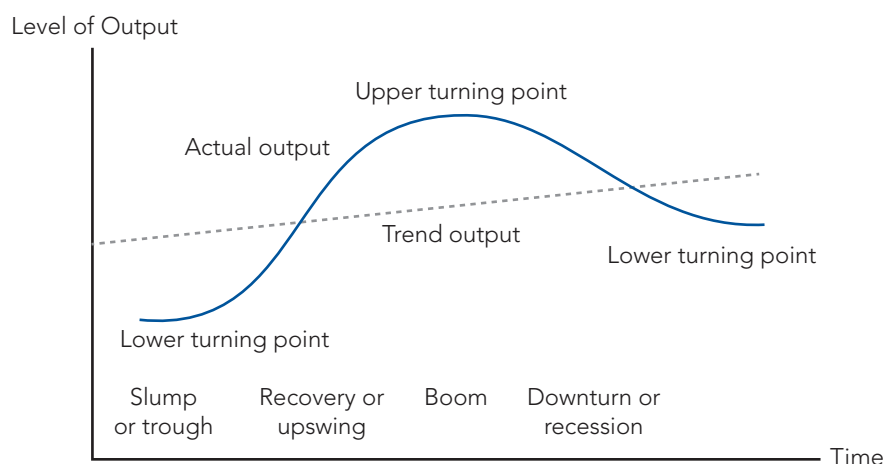
Business Cycles mind map



9.1 THE BUSINESS CYCLE

What is the business cycle?

The **business cycle** model shows 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.

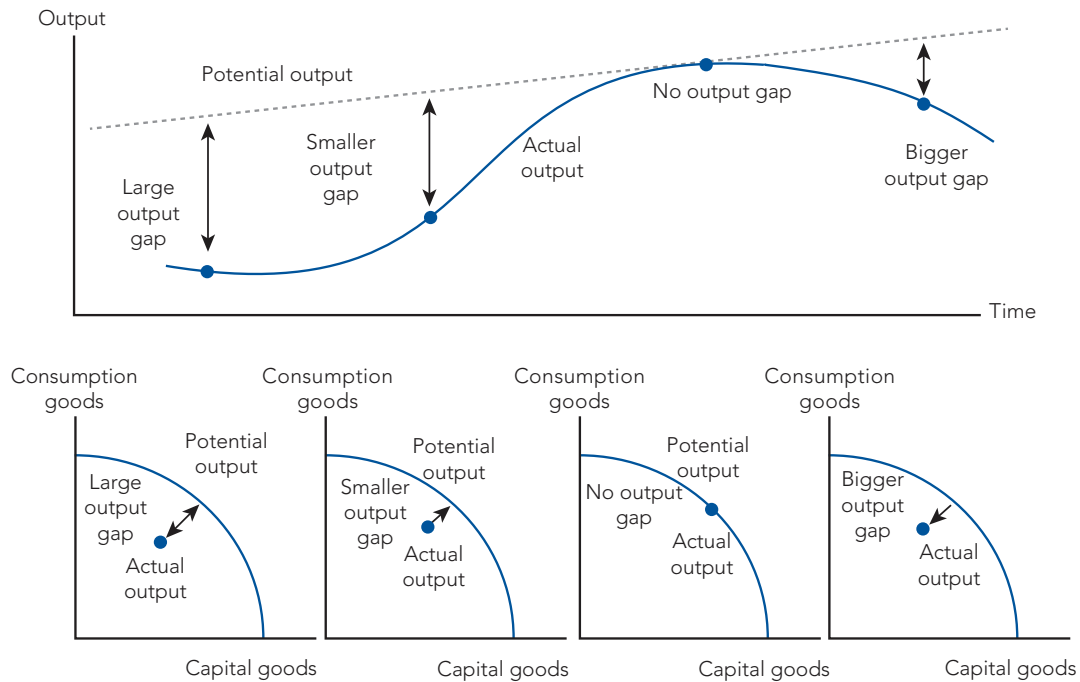


What are the typical phases or stages that make up the business cycle?

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

- **Boom:** Actual output is close to the level of potential output
- **Downturn:** The gap between actual output and potential output increases
- **Slump:** Actual output is well below potential output
- **Recovery:** 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.



Does the model predict changes in the level of output or changes in the rate of growth in output?

The model can refer to both changes in the level of output and changes in the growth rate of output. However, care needs to be taken to avoid confusing the level of output and rate of change in output. For example, During 2014-15, Australia's level of output was increasing but the growth rate remained below the trend or average growth rate achieved in recent years.

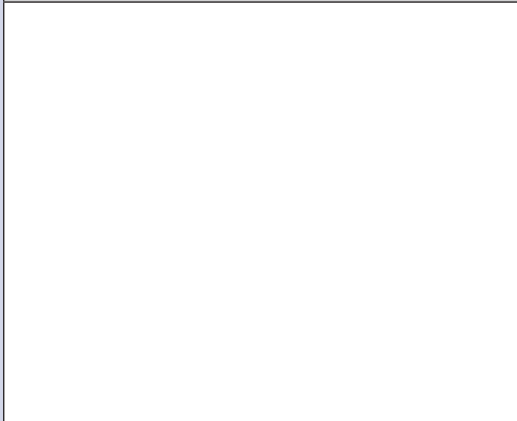
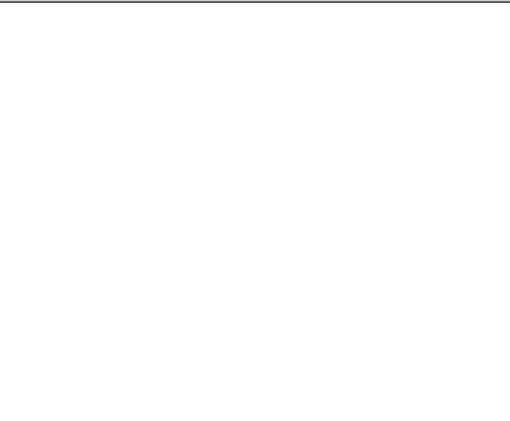
Term	Explanation
Output	The level of output is linked with the level of income and expenditure in the economy. The level of expenditure is known as aggregate expenditure or aggregate demand and is the sum of consumption, planned investment, government spending and net exports.
Potential output	The capacity of the economy is determined by its quantity and quality of resources and the efficiency with which they are used. Hence, economic capacity is closely linked to aggregate supply.
Trend output	The level of output that would be achieved if the economy expanded at the average growth rate achieved over previous years
Actual output	The level of output, income or expenditure achieved in an economy over a period of time. This is known as GDP or national income.
Output gap	The GDP or output gap is the difference between economic capacity and aggregate demand. In a boom the gap is small (or even, for a short while, negative). In a slump or trough the gap is relatively large.
Recession	Two consecutive quarters (3 month periods) of falling output or negative economic growth. It is possible for an economy to be in a downturn or period of slower growth without slipping into a recession.

Student Activity 9.1

1. What are the key words or phrases that should be included in a definition or explanation of the term 'business cycle'?

2. What is the difference between 'trend growth' and the actual growth rate?

3. Draw two production possibility curve diagrams to show the difference between an economy in a boom and in a slump. Identify on the diagram the points, lines or gaps that show the actual level of output, the potential level of output and the output gap.

Boom	Slump
	

9.2 PHASES AND CHARACTERISTICS

What happens during the recovery phase?

- **Aggregate demand increases:** There is an increase in the level of one or more of the components of aggregate demand (consumption, planned investment, government spending or 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 (expenditure in one area leads to further expenditure elsewhere in the economy). Business and consumer confidence rises giving further upward momentum to the economy
- **The output gap decreases:** The gap between actual output and potential output falls
- **Employment rises:** More employment opportunities are created as a result of the increase in aggregate demand.

Why doesn't the economy continue to expand indefinitely?

- **Supply-side constraints:** After a while spare capacity is used up and the economy can only continue to grow if aggregate supply or potential output is increased.

- **A negative output-gap develops:** As 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 may develop and congestion or bottlenecks may appear when businesses try to access the economy's transport infrastructure.
- **Inflation rises:** Excess aggregate demand leads to demand-pull inflation
- **Macroeconomic 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.

What happens in a downturn?

- **Aggregate demand decreases:** There is a fall in the level of one or more of the components 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
- **Unemployment increases:** Workers lose their jobs due to the decrease in aggregate demand.

What stops the economy from collapsing completely?

- **Survival consumption:** Consumers try to maintain the standard of living they have grown used to for as long as possible even when their income is reduced, this may mean borrowing and going into debt. Economists have used the term 'survival consumption' to describe consumers' demand for essential products.
- **Replacement investment:** Businesses may need to spend some money on planned investment, e.g. replacing some machinery, even if demand is relatively low.
- **Social security safety net:** The Government provides a social security safety net that leads to a rise in injections into the economy as the level of economic activity falls.
- **Macroeconomic policy response:** The government may boost the amount they inject into the economy with additional spending measures, such as increased spending on new school buildings. The Reserve Bank may reduce cash rates.

Student Activity 9.2

1. Complete the table stating the stages of the business cycle before and after those listed.

Previous stage	Current stage	Following stage
	Boom	
	Slump	
	Downturn	
	Recovery	

2. Describe two factors that may create a ceiling or upper turning point in the business cycle model.

3. Describe two ways the government can smooth or reduce the amplitude of an economy's business cycle.

4. Describe how the Reserve Bank of Australia can control swings in the business cycle.

5. Describe two reasons why an economy picks up speed following a positive demand shock, such as a rise in export sales of iron ore to China.

6. What is 'survival consumption' and state how it affects the business cycle?

7. Why is it difficult to decide what is, and what is not, part of survival consumption?

9.3 ECONOMIC INDICATORS

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

There are lots of data published about the economy. These data sources can be combined to indicate the current phase or stage of an economy. A picture of economic performance may include indicators of that focus on a) Macroeconomic objectives; b) Features of economic models; c) Components of aggregate demand; d) Policy settings

The table below shows examples from each of the above areas.

Macroeconomic objectives		Features of economic models	
Output Labour market Price stability	GDP data Cyclical unemployment rate, Participation rate Wages growth Demand-pull Inflation	PPC model Keynesian cross AD/AS model	Output gaps Inflationary gaps Recessionary gaps Full capacity (LRAS)
Components of aggregate demand		Policy settings	
Consumption Investment Government spending Net exports	Types of goods in stores Consumer confidence Demand for electricity Empty shops Cranes on city skylines Business confidence Cyclical budget balance Tax revenue Trade balance	Monetary policy Fiscal policy Supply-side	Cash rate changes Structural budget balance Spending on infrastructure

Do all these indicators show the current state of the economy?

Economists distinguish between leading, coincident and lagging indicators. Only coincident indicators show the current state of the economy.

Term	Definition	Example
Leading Indicators	Predict trends – they change before a direction becomes evident elsewhere	Building approvals Share prices Purchasing managers index (PMI)
Coincident Indicators	Move in line with the level of economic activity	GDP Retail sales Car sales
Lagging Indicators	Don't show change until trends in the economy have been confirmed	Unemployment data Consumer debt Inflation

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 area of economic activity	Car sales Housing approvals
General Indicators	Data refers to the economy as a whole	GDP Retail sales

Student Activity 9.3

- Write in the table below what happens to the following indicators during an economy recovery.

Inflation (growth in CPI)	Output gap
Unemployment (Unemployment rate)	Injections and leakages
Consumer confidence	Cash rates
Planned investment	Budget outcome

- Write in the table below what happens to the following indicators during slump or trough.

Growth in GDP	Output gap
Participation rate	Injections and leakages
Consumption spending	Cash rates
Trade balance (exports minus imports)	Budget outcome

- State whether the following data indicates previous, current or future economic performance?

Unemployment rate		Stock exchange indices	
New car sales		Rate of change in GDP	
Inflation rate		Demand for electricity	
Purchasing managers' index (PMI)		Housing loan approvals	

4. What happens to the following during a boom? Are these useful economic indicators?

Cranes on the city skyline	
Concrete production	
Hemlines and length of hair	
Type of cars in showrooms	

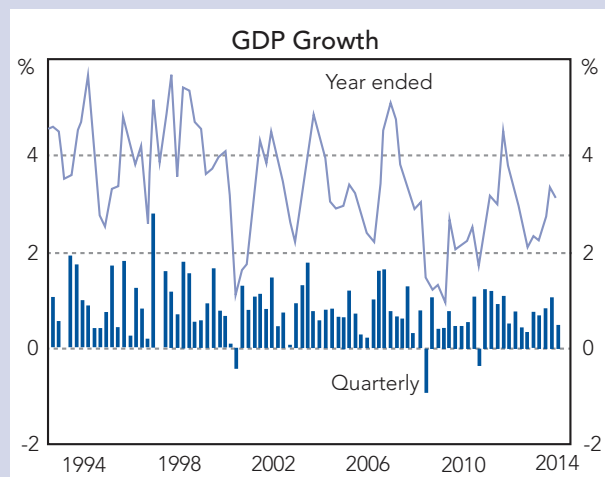
9.4 AUSTRALIAN GROWTH PERFORMANCE

Does it matter if economies rarely follow the path described in the business cycle model?

Output rarely changes in the way predicted in the business cycle model. This does not matter as long as the model helps provide a useful framework for describing and understanding what is actually happening. The model, however, will not be able to predict accurately what is going to happen next in an economy.

Student Activity 9.4

1. Use the business cycle model to describe the growth path of the Australian economy over the last ten years.



2. **Hypothesis testing:** Using internet-based data sources test each of the following statements. Write a sentence in support your conclusion.
- (a) The short-run fluctuations in output were larger in the period 2004 to 2014 than in the ten years before.

- (b) The average length of time between peaks (or booms) is 7 years.

- (c) Downswings are shorter and steeper than upswings.

- (d) The economy has followed a growth pattern that is clearly regular.

- (e) Australia had three periods of recession in the period 1993 to 2014.

3. Attempt to answer the following questions.

- (a) What is the next stage in the economic cycle for the Australian economy? State four pieces of evidence that you think supports your view.

- (b) What components of aggregate demand are currently making a positive contribution to economic growth in Australia and which are making a negative contribution?

- (c) Suggest two realistic external shocks that might throw the economy off course.

- (d) What counter-cyclical demand-side policies are the Government and Reserve Bank currently using? What degree of success are these policies likely to have?

SO YOU NOW THINK YOU UNDERSTAND BUSINESS CYCLES

Key words or phrases in definition of business cycle 1 2 3	Meaning and examples of: Lagging indicators Coincident indicators Leading indicators Meaning and example of: General indicators Partial indicators
Four stages in a typical business cycle 1 2 3 4	Four causes of the business cycle 1 2 3 4
What happens to macroeconomic objectives in a boom? 1 2 3 4	Three causes of upper turning points 1 2 3
What happens to the output gap in a boom?	Three causes of lower turning points 1 2 3
What happens to components of aggregate demand in a boom? 1 2 3 4	Two causes of cumulative or domino changes in the economy 1 2
What happens to cash rates and the government's budget in a boom? 1 2	Five indicators of current phase for the Australian economy 1 2 3 4 5
Three other indicators of an economic boom 1 2 3	

REALITY CHECK

Chapter 9: Business Cycles

1. In which stage of the business cycle is the size of the output gap is 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. In an economy potential output is estimated to be \$900b, actual output is \$850b and trend output has been \$875b. The output gap in the economy is, therefore:
 - (a) \$25b
 - (b) \$50b
 - (c) \$75b
 - (d) \$900b
4. Which one of the following is most likely to happen in a boom?
 - (a) Cyclical unemployment will rise
 - (b) Inflation will fall
 - (c) Output will rise close to the level of potential output
 - (d) Growth will accelerate
5. Which one of the following is LEAST likely to be a feature of a recession?
 - (a) There will be more empty shops in shopping centres
 - (b) More people will need to contact Centrelink
 - (c) Firms will produce more up-market or luxury versions of their products
 - (d) Consumer and business confidence will be low
6. Which one of the following contributes to a floor or lower turning point in the 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
7. The acceleration in the rate of growth during the early stages of a recovery is caused by:
 - (a) A further fall in business confidence
 - (b) A rise in consumer confidence and an increase in discretionary purchases
 - (c) Better outcomes from the education system
 - (d) Cuts in government spending to repair their budget
8. Which one of the following is a leading indicator of economic activity? Changes in:
 - (a) Gross Domestic Product
 - (b) The unemployment rate
 - (c) The Purchasing Managers Index
 - (a) Retail sales

9. Which of the following would provide a positive demand shock for the Australian economy?
- (a) A return of higher economic growth in China
 - (b) The spread of disease caused by the ebola virus beyond western Africa
 - (c) Lower prices for iron ore, gold and copper
 - (d) A rise in tax to balance the Commonwealth Government budget
10. If the rate of growth in Australia 2016 is 2.5% per annum, the economy will probably be in:
- (a) The early stages of a new boom
 - (b) A recession
 - (c) A slow and patchy recovery
 - (d) A continuing slump

Question Describe the causes of the business cycle and the effects of a downturn in the business cycle on inflation and unemployment, the Budget balance and balance of trade. [20 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

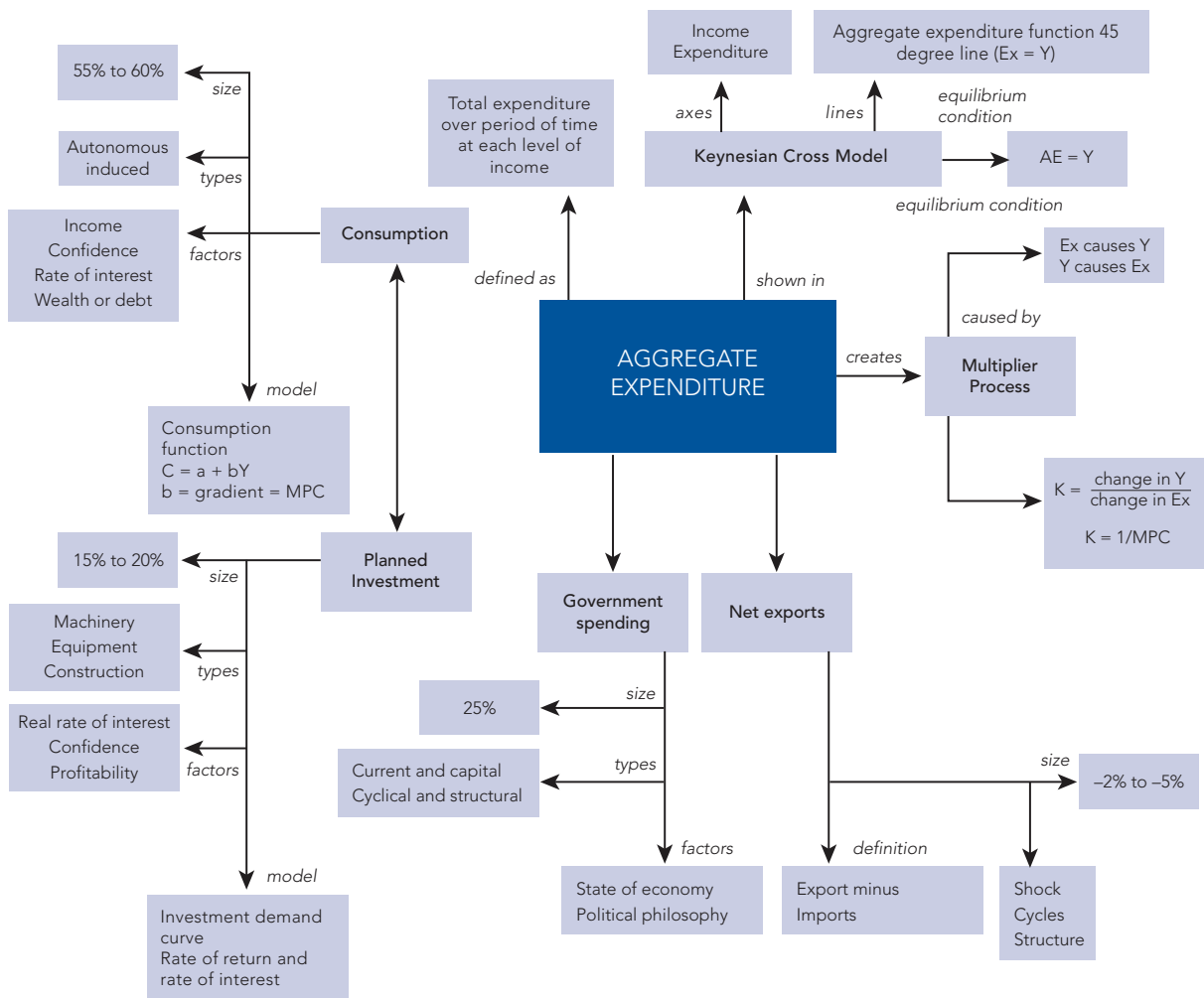


- ☐ The components of aggregate expenditure (AE); consumption; investment; government spending; net exports.
- ☐ Factors affecting each of the components of aggregate expenditure.
- ☐ The relationship between the consumption function, the marginal propensity to consume and the marginal propensity to save.
- ☐ The concept of macroeconomic equilibrium.
- ☐ Demonstrate the impact of changes in aggregate expenditure on the equilibrium level of income/output using the AE model.
- ☐ The impact of changes in each of the components of aggregate expenditure i.e. the multiplier process using the AE model.

OVERVIEW – 10 STEPS TO UNDERSTANDING AGGREGATE EXPENDITURE

1	Aggregate expenditure is the sum of consumption, planned investment, government spending and net exports in an economy over a period of time. If aggregate expenditure and income are equal, the economy will be in equilibrium because there is just enough expenditure to absorb all the economy's production.
2	Consumption is household spending on goods and services. It is the biggest component of aggregate expenditure (between 55% and 60%) 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 shows the extra consumption undertaken as a result of receiving extra income and is known as the marginal propensity to consume.
3	Planned investment is spending on capital or producer goods. It contributes between 15% and 20% to aggregate expenditure. It is relatively unstable. Factors that affect planned investment include the real rate of interest, business confidence and expectations, profitability and government regulations.
4	Government spending contributes about 25% to aggregate expenditure. It is a relative stable component of aggregate expenditure. It has a cyclical and structural element.
5	Net exports (or exports minus imports) typically contribute 1% to -3% to aggregate expenditure. It is a relatively unstable component of aggregate expenditure. The net export or trade balance depends on structural, cyclical and shock factors.
6	The aggregate expenditure model is also known as the Keynesian Cross model. Equilibrium is determined by the intersection of the aggregate expenditure function and a 45° line (which shows all points where income and expenditure are equal).
7	The shape of the aggregate expenditure function is determined by the gradient of the consumption function (i.e. MPC) because it is assumed that the other components of aggregate expenditure ($I_p + G + X - M$) are independent of the level of income.
8	A change in a component of aggregate expenditure 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 is another person's income and, in turn, extra income leads to extra 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 (or by the marginal rate of leakages).
10	The multiplier is important because it helps explain the recovery and downturn (or recession) 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 actually be negative.

Aggregate Expenditure mind map



10.1 AGGREGATE EXPENDITURE

What are the components of aggregate expenditure?

Aggregate expenditure (AE) is the sum of:

- **Consumption (C):** Spending by households on goods and services
- **Planned investment (Ip):** Spending on capital goods such as machinery and buildings
- **Government Expenditure (G):** Government spending for example on public and merit goods and services
- **Net exports:** Exports (X) minus imports (M).

What is the formula for aggregate expenditure?

The formula for calculating aggregate expenditure is, therefore:

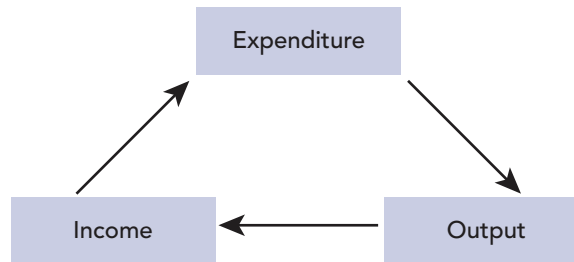
$$AE = C + I_p + G + (X - M)$$

Note:

- Net exports are often shown in brackets because goods and services bought for consumption, for planned investment and by the government can be imported.
- Government spending can be split into current spending (G1), e.g. wages and energy and capital spending (G2), e.g. transport infrastructure and public buildings

Why is the level of aggregate expenditure important?

In the Keynesian way of thinking, 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.



Student Activity 10.1

1. What do the following letters (pronumerals) stand for?

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

2. How are the following examples of expenditure classified?

a)	Purchase of a new car by an Australian household	
b)	Purchase of a new vehicle by an Australian business	
c)	Purchase of a military vehicle by the Australian Army	
d)	Purchase of new Australian made car in Indonesia	
e)	Purchase of South African made car by Australian	

3. Assume, over a year, consumption = \$600b, planned investment = \$200; government spending = \$300b, exports = \$300b and imports = \$325b what is the value of aggregate expenditure during the year?

10.2 CONSUMPTION (C)

What is consumption expenditure?

- Consumption expenditure is the spending over a given period of time by households on goods and services.
- Consumption makes up about 55% of aggregate expenditure and is a relative stable component of it.
- Consumption expenditure can involve spending on non-durable goods (e.g. food, clothing), durable goods (e.g. white goods, furniture, cars) and services (non-commodity products) (e.g. education, health, recreation, legal services)

What is the difference between autonomous and discretionary expenditure?

- **Autonomous consumption:** Some consumption expenditure is necessary to satisfy basic needs (e.g. food, clothing, fuel, health). Necessary consumption is sometimes referred to as 'survival' consumption spending. Survival consumption is a relatively stable component of total consumption and is not directly related to the level of income.
- **Discretionary consumption:** Discretionary spending is spending on luxuries that can be put off or postponed. It satisfies a consumer's higher order needs (e.g. an evening out with friends, or overseas travel). Discretionary consumption is a relatively unstable component of total consumption and has a positive relationship with the level of income.

What factors determine the level of consumption expenditure?

- **Disposable income:** The more after-tax income the more consumption spending
- **Interest Rates:** The higher the rate of interest the bigger the reward for saving (and opportunity cost of spending) and the more expensive it becomes using credit to finance consumption purchases.
- **Inflation:** The higher the rate of inflation, the more expensive it is 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. For example if a rise in share prices or house prices increases household wealth consumption expenditure may rise. Higher levels of debt may lead households to reduce consumption.
- **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 fear or unemployment, uncertainty caused by inflation, instability in share and house prices, lack of stable government, the introduction of new taxes and international events.

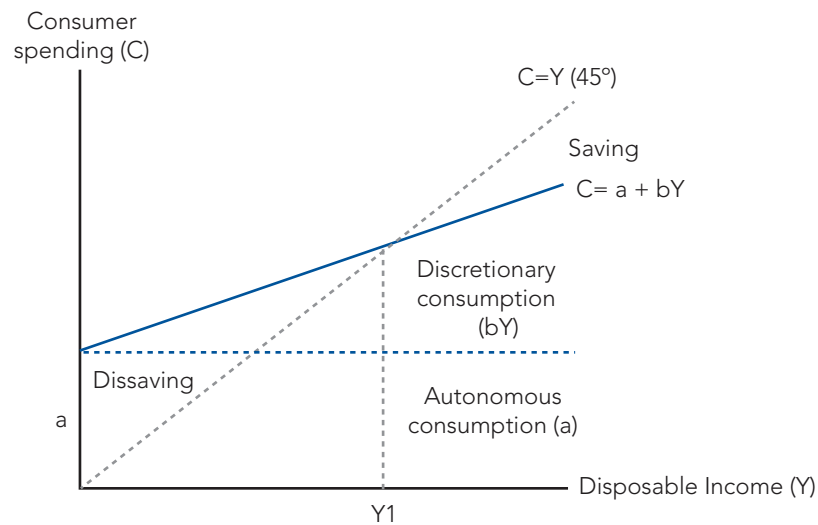
Can the level of consumption be controlled?

The government and the Reserve Bank can influence the level of consumption expenditure by:

- **Tax changes:** Direct tax changes alter the level of disposable income
- **Interest rate changes:** The Reserve Bank can influence the level of interest rates
- **Sound management of the economy:** Consumer confidence can be influenced by sound economic management according to known frameworks

What does the consumption function look like?

The consumption function shows a direct relationship between the level of consumption and the level of disposable income.



The diagram shows:

- **Autonomous consumption:** This is 'survival' consumption on necessities (a) and is not related to changes in disposable income.
- **Discretionary consumption:** This non-essential consumption (bY) is directly related to the level of disposable income.
- **Marginal propensity to consume (MPC):** The marginal propensity to consume is the extra consumption undertaken as a result of receiving extra income. The marginal propensity to consume (b) determines the gradient of the consumption function.
- **45° or C = Y line:** The 45° line shows all points where consumption equals income. When the consumption function is above the 45° line consumption expenditure is greater than income and households are dis-saving (e.g. by borrowing or selling assets). When the consumption function is below the 45° line consumption expenditure is less than income and households are saving (e.g. reducing debt or buying assets).
- **Equilibrium:** The household sector is in equilibrium at income level Y1 where the consumption function and the 45° line cross.

So the formula for the consumption function is $C = a + bY$?

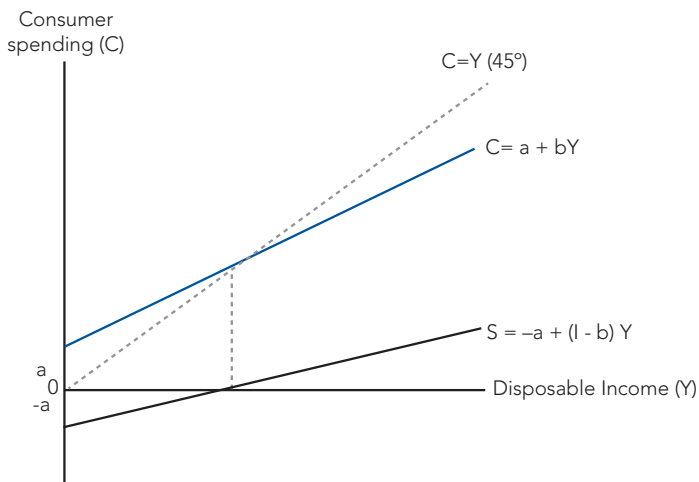
Yes! Total consumption expenditure over a period of time will be autonomous consumption (a) plus discretionary consumption (bY) where b = the marginal propensity to consume and Y = disposable income. The level of consumption expenditure at each level of disposable income is shown at different points on the consumption function.

Can there be a shift in 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. change in interest rates, consumer confidence, and wealth). If there is a change in the marginal propensity to consume the gradient of the consumption will change as well.

If income is not spent on consumption is it saved?

Disposable income is either spent on consumption or it is saved. So $Y = C + S$. It, therefore, follows that the formula for the savings function is $S = -a + (1-b)Y$



b = marginal propensity to consume (MPC).
This is the gradient of the consumption function.
 a = autonomous consumption that is not related to income.

The $C=Y$ or 45 degree line is a useful tool for seeing the level of income where consumption = income.

Saving is the opposite of consuming.
 $Y = C + S$.

Student Activity 10.2

1. Describe four factors that influence the level of consumption spending.

2. What makes up the majority of household wealth? What is the likely impact on consumption of a fall in household wealth (e.g. as a result of a fall in house prices or a fall in the share market)?

3. Describe the impact of a fall in cash rates on consumption spending.

4. What is the likely impact on consumption of a rise in inflation to a level above the Reserve Bank's target range?

5. What factors are likely to affect consumer confidence or expectations? What is the likely impact on consumption of a fall in consumer confidence?

6. What is the relationship between the consumption and savings functions?

7.

- (a) Calculate the missing consumption and savings data in the table.

- (b) What is the level of autonomous consumption in this economy?

Disposable income (\$b)	Consumption (\$b)	Saving (\$b)
0	60	-60
100	120	
200	180	20
300		60
400		100
500	360	
600	420	180

- (c) Calculate the marginal propensity to consume.

- d) How can households 'save' -\$60b?

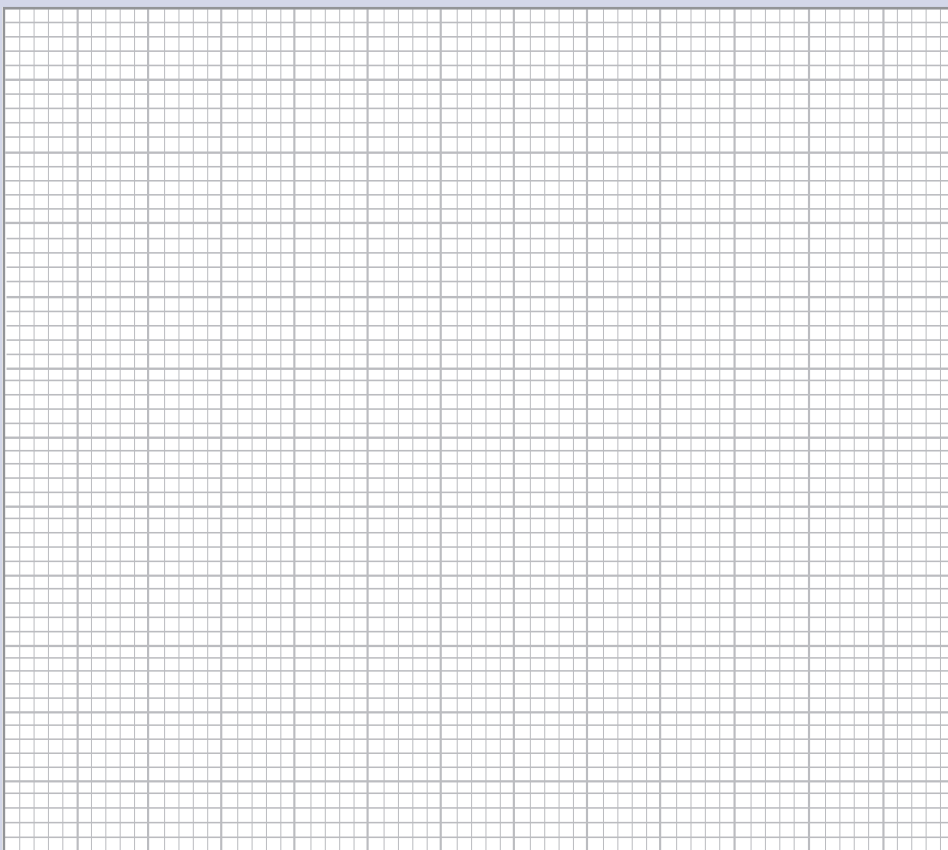
- (e) What is the equation of:

- i) the consumption function

- ii) the savings function?

- (f) If consumption spending were the only component of aggregate expenditure in the economy what would be the equilibrium level of income?

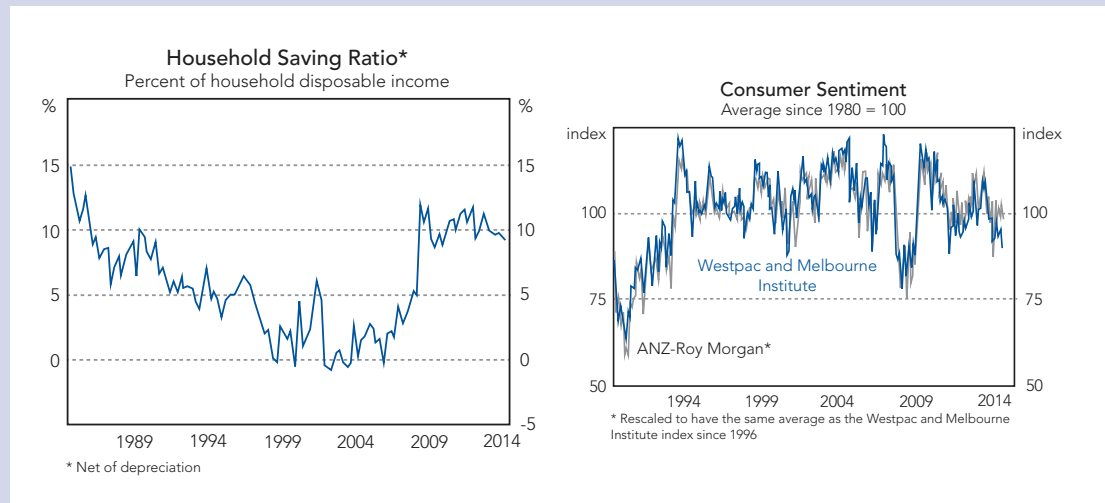
- (g) Draw the consumption and savings function. Shade in an area that shows dissavings (borrowing or using up past savings) and an area that shows positive savings.



- (h) If there is a change in a non-income factor affecting consumption, and as a result consumption rises by \$50b at each level of income, what will happen to the position of the consumption function? Show the result on the diagram.

- (i) Assume that the rate of consumption falls from 0.6 to 0.5. What is the name economists give to the 'rate of consumption' and what would this do to the consumption function and level of output?

8. Use the data provided in the charts to answer the questions that follow.



- (a) Sketch a consumption function diagram showing the impact of the rise in the household savings rate during 2008/09.

- (b) State three factors that might affect the level of consumer sentiment. What impact will the downward trend in consumer sentiment after the global finance crisis have on the level of consumption expenditure?

- (c) Explain the impact on the level of economic activity of a fall in consumption expenditure.

10.2 PLANNED INVESTMENT

What is planned investment?

Planned investment expenditure occurs when firms buy capital goods, e.g. buildings, equipment and transport, and when households buy new houses. Governments also undertake planned investment e.g. on infrastructure projects such as roads, ports and telecommunications networks (NBN) but this is classed as government spending (G2).

Is there such a thing as unplanned investment?

Unplanned investment refers to changes in stocks (or inventories) following an unexpected change in the level of demand.

Don't people invest in shares and deposit money in banks?

Yes they do, but, to an economist, this is saving. In economics investment refers to spending on capital goods not shares purchased in the stock market or deposits made in bank accounts.

Is planned investment an unstable component of aggregate expenditure?

Planned investment is a relatively unstable component of aggregate expenditure. During the investment phase of the mining boom investment rose to nearly 20% of GDP but typically it is less than this.

What determines the level of planned investment?

Planned investment can be affected by four main factors:

- **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 capital good is reduced.
- **Profitability:** Other things being equal, the higher the expected level of profit the higher the level of planned investment.
- **Expectations and business confidence:** The higher the level of business expectations and confidence the higher the level of planned investment. Many projects take several years to complete making it difficult to accurately calculate the costs and benefits of investment projects.
- **Government policies:** Governments can change the cost and returns from capital expenditure, for example, by changing tax rates, changing regulations and through their foreign investment decisions.

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.

Is there a planned investment function?

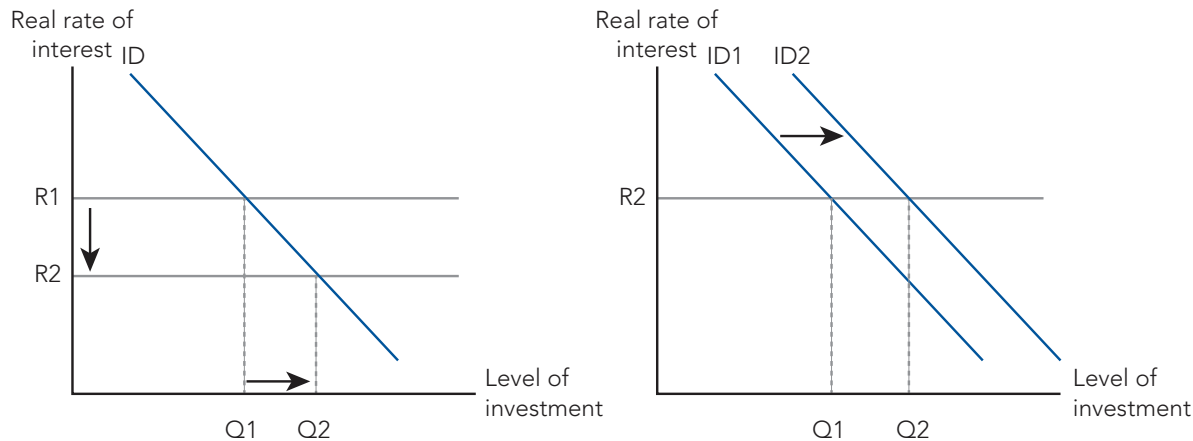
Yes, but it is called an investment demand curve. An investment demand curve shows the relationship between the level of planned investment and the real rate of interest.

The investment demand curve slopes downwards to the right. As with other demand curves, 'ceteris paribus' is assumed, that is non-interest rate factors that affect the demand for investment goods (such as the expected level of profitability, business confidence and expectations) are constant.

At a given level of economic activity, the more investment undertaken, the more competition there will be for a share of the profits available, and, hence, the lower the rate of return on individual investment projects.

The level of investment is determined by comparing the rate of return from investment (as shown on the ID curve) with the real rate of interest (R). Profit maximising firms will invest up the point where returns fall to the level of the real rate of interest.

At relatively a relatively high real interest rate (R1) planned investment is relatively low. The opportunity cost of spending money on capital goods is relatively high so firms need a relatively high rate of return from their investment spending. At relatively low real interest rates (R2) planned investment will be relatively high – as the opportunity cost is now lower and firms can accept a lower level of return.



When does the investment demand curve shift its position?

The position of the investment demand curve (ID) shifts when there is a change in a factor other than the real rate of interest that affects investment spending. For example, the investment demand will shift to the right if business confidence rises and there is an increase in profits.

Student Activity 10.3

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 (e.g. internet)		
f) Introduction of an emissions trading scheme		

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

(a)

(b)

(c)

(d)

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

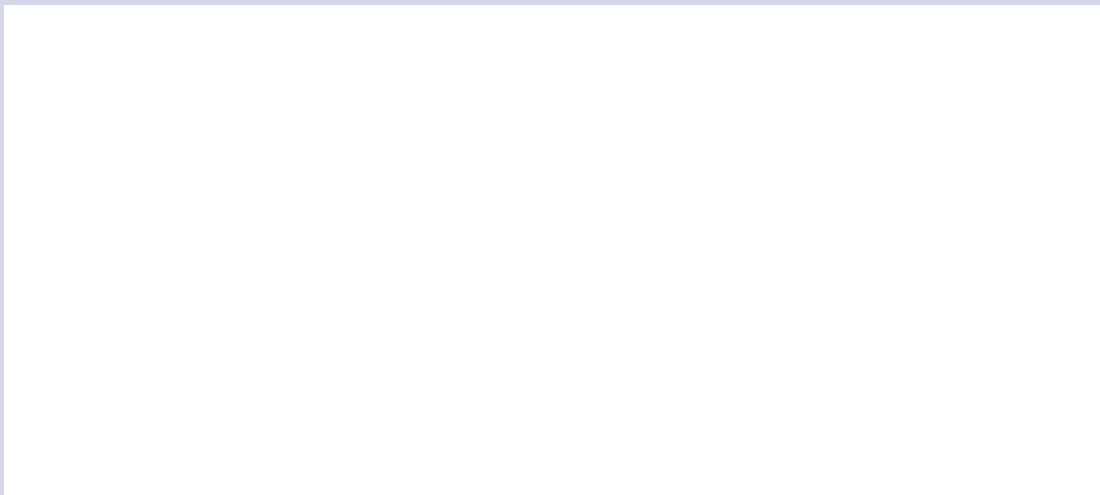
(a)

(b)

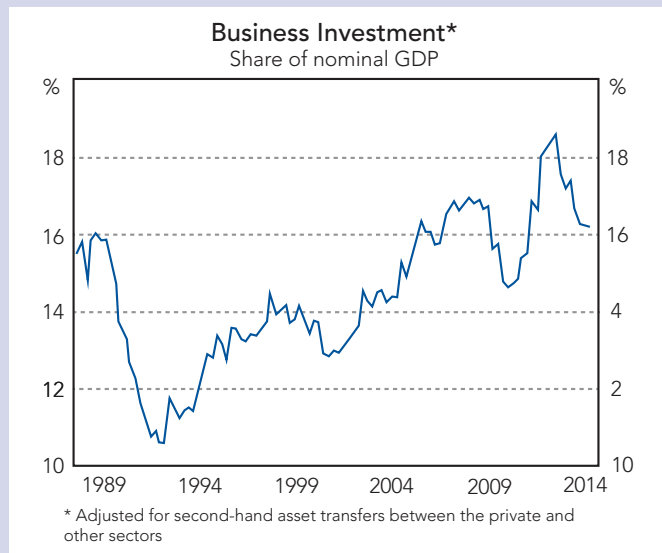
(c)

(d)

4. Sketch a 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.



Source: ABS

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

- (b) State three reasons for the fall in investment as a percentage of GDP between 2011 and 2014.

- (c) Sketch an appropriate diagram that would help explain the fall planned investment spending between 2011 and 2014.

10.3 GOVERNMENT SPENDING

There are three tiers of government in Australia aren't there?

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.

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 stage of the business cycle and hence is described as 'cyclical' or 'automatic' (e.g. spending on unemployment benefits). If the government boosts spending to raise the level of aggregate demand this would be 'cyclical and discretionary'.

What determines the level of structural government spending?

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

- Political philosophy
- Shocks (e.g. floods, drought, wars)
- Demographics (e.g. the ageing population)
- Health care costs (e.g. pharmaceuticals and medical equipment)
- The level of tax revenue and the government's attitude to borrowing.

How much does the government spend each year?

Currently, Commonwealth Government spending is about \$430b a year equivalent to about 25% of GDP. It is a relative stable component of aggregate expenditure.

Estimates				
	2014-15		2015-16	
	Budget \$b	MYEFO \$b	Budget \$b	MYEFO \$b
Receipts	385.8	379.5	410.4	403.4
Percent of GDP	23.6	23.6	24.0	24.0
Payments (a)	412.5	416.5	424.2	431.1
Percent of GDP	25.3	25.9	24.8	25.7
Net Future Fund Earnings	3.1	3.3	3.3	3.5
Underlying cash balance (b)	-29.8	-40.4	-17.1	-31.2
Percent of GDP	-1.8	-2.5	-1.0	-1.9

Source: treasury.gov.au

Government spending is covered in more detail in Chapter 14.

Student Activity 10.4

1. What are the four roles of government? Give examples of government spending designed to fulfil each of these roles.

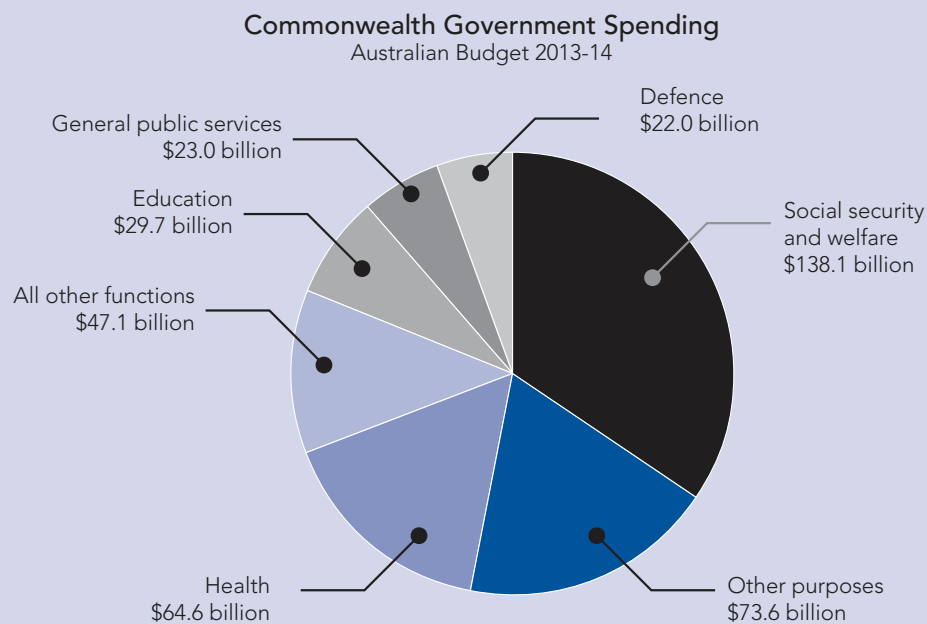
(a)

(b)

(c)

(d)

2. Using the pie chart below, state the main areas of Commonwealth Government spending.



3. Many governments are trying to cut back on spending (e.g. UK, US, Greece, Spain, Ireland). Why are they doing this? Why is this not an easy process? What areas of spending should be 'ring-fenced'?

10.5 Net exports (X-M)

Net exports are covered in more detail in Chapter 3.

Why are exports a component of aggregate expenditure?

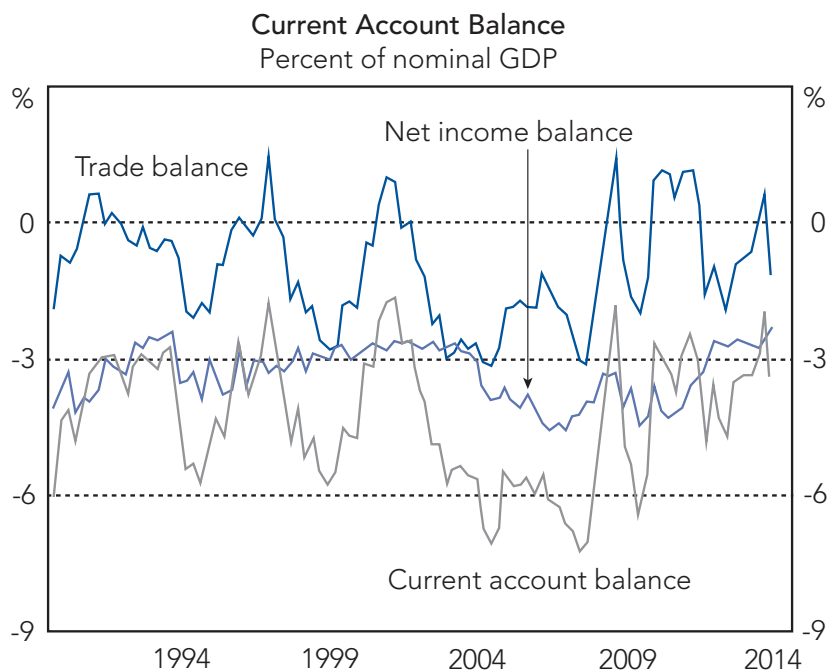
The purchase of Australian produced goods and services by non-residents adds to total demand. Exports are considered an injection into the economy's circular flow because the production of exports creates incomes for Australian firms and households.

Why are imports subtracted from other forms of expenditure?

Imports create a leakage from the economy's circular flow. Spending on consumer and capital goods exports by the household, business and government sectors in Australia creates incomes in economies elsewhere.

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 as shown in the chart below.



Source: ABS

What factors affect the level of net exports?

The net export or trade balance is affected by structural factors, cyclical factors and shocks.

- **Structural factors:** Structural factors are those that affect our international competitiveness or our ability 'to meet the test of international markets'. Relevant factors include, for example, relative inflation levels, the exchange rate value of the Australian Dollar, wage rates and 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:** The ability to export is periodically affected by natural disasters (e.g. floods and droughts) and political embargoes (e.g. suspension of live cattle sales to Indonesia).

Student Activity 10.5

1. Look at the chart on the previous page. Describe the movement and trend in Australia's trade deficit during the period of the chart.

2. What factors can cause fluctuations in the trade balance?

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

4. How does our pattern of trade contribute to instability in the value of net exports?

5. Describe three factors that are presently affecting the international competitiveness of Australian producers.

(a)

(b)

(c)

10.6 THE KEYNESIAN CROSS OR INCOME/EXPENDITURE MODEL

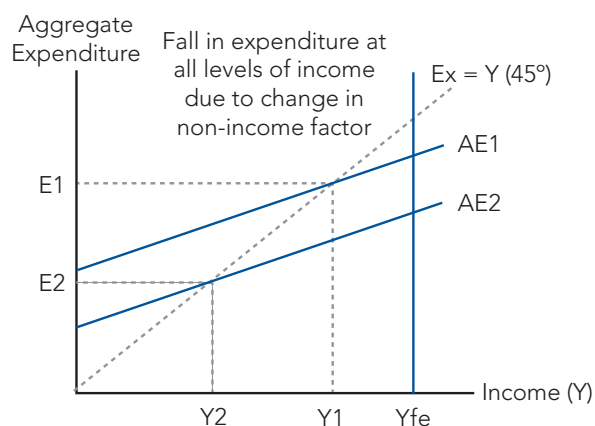
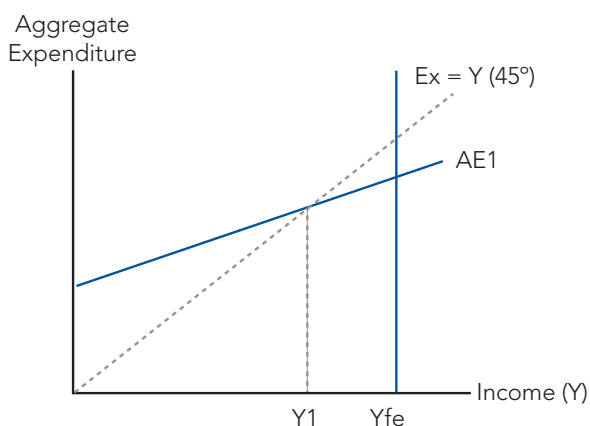
Can you provide a summary of the relationship between the components of aggregate expenditure and income please?

Component	Relationship with changes in income	Non-income factors	Share of aggregate expenditure
Consumption	Positive – strength shown by marginal propensity to consume)	Interest rates Wealth and debt Expectations Inflation	About 58%
Planned investment	Weak – Assumed in model below to be independent.	Real rate of interest Expectations Profitability Regulation	About 18%
Government expenditure	Weak – Assumed in model below to be independent	Structural spending requirements Political philosophy	About 25%
Net exports	Negative – Higher income means higher imports	International competitiveness Shocks	About -1%

What is the Keynesian Cross or income-expenditure model?

The model has a number of key features.

- The aggregate expenditure function shows the level of planned or intended expenditure in an economy over a given period of time at different levels of income.
- The aggregate expenditure function is the sum of four separate functions for each component of aggregate expenditure (consumption, planned investment, government spending and net exports) showing how each one varies with income.
- An economy will be in equilibrium when expenditure equals income. The 45° degree line shows all points where expenditure equals income and is a handy way of finding the point on the aggregate expenditure function where expenditure equals income and hence the equilibrium level of income (Y1).



- The 45° degree line can also be viewed as an actual spending line – the difference between this line and the aggregate expenditure function is unplanned investment expenditure as a result of a change in stocks or inventories.
- The Keynesian income/expenditure model assumes there is no change to the price level.
- The capacity of the economy (long run aggregate supply) is shown as a vertical line at the full employment level of income (Yfe).

Why might income and output fall?

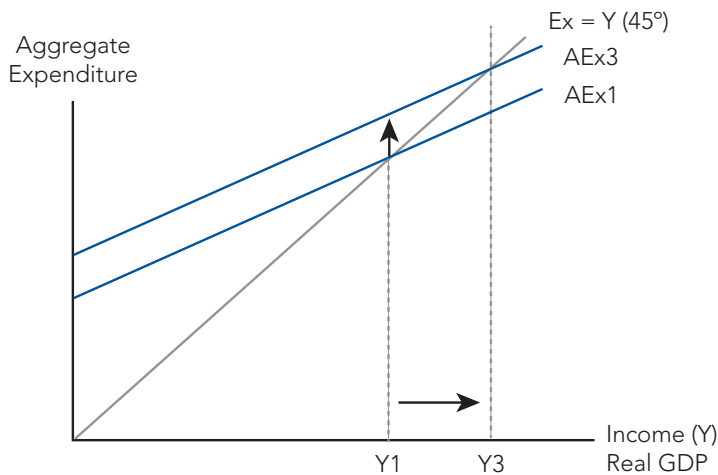
In the right hand pane of the diagram on the previous page the economy is originally in equilibrium at Y_1 . Following an autonomous fall in one or more components of aggregate expenditure, planned expenditure is now less than output at income level Y_1 . Too much is being produced so stocks (or inventories) build up. Businesses find themselves doing unplanned or involuntary investment. To avoid this continuing, businesses cut back output and this causes a fall in income (to Y_2).

Why might income and output rise?

In the diagram below:

- The economy is in equilibrium at Y_1 .
- When there is an autonomous rise in one or more components of aggregate expenditure, planned expenditure is above the level of output planned for income level Y_1 .
- Too little is now being produced, businesses run down their stocks (or inventories) to satisfy the extra demand. Businesses find themselves doing negative unplanned or involuntary investment.

To avoid this continuing, business increase output and income.



An autonomous rise in Aggregate Expenditure from AEx_1 to AEx_3 leads to a rise in equilibrium income (from Y_1 to Y_3).

The autonomous change in AEx could be caused by changes to any or all of the components of aggregate expenditure (C , I_p , G or $X-M$).

Note the change in income is bigger than the autonomous expenditure bringing it about. This is because of the multiplier effect.

Student Activity 10.6

1. What are the components of aggregate expenditure?

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

3. What information does the 45° line provide in this model?

- (a) _____
- (b) _____

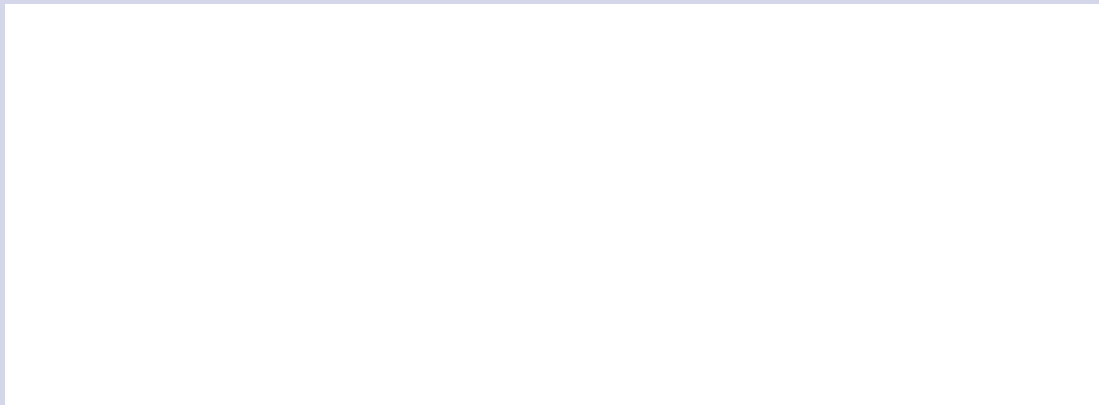
4. How does this model show performance on the following macroeconomic objectives?

(a) Growth

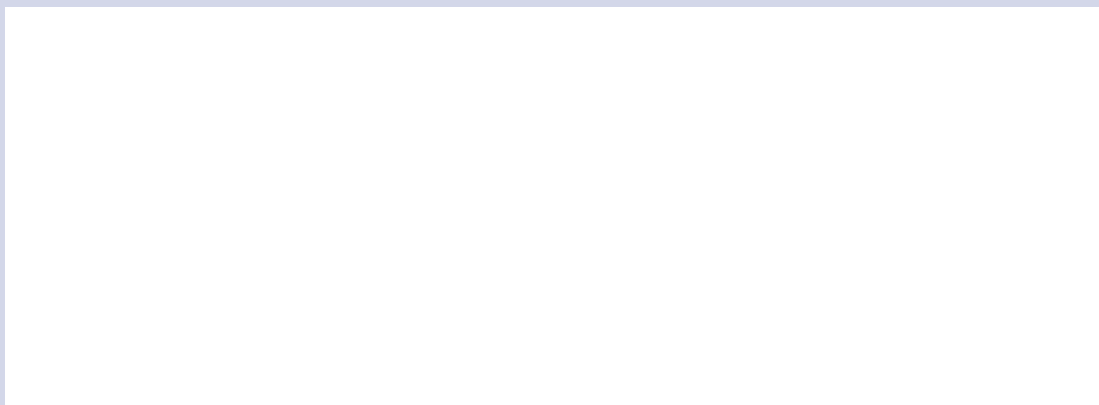
(b) Unemployment

(c) Inflation

5. Sketch a Keynesian Aggregate Expenditure model 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.



6. Sketch a Keynesian Aggregate Expenditure model 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.



7. 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)	Fall in mining investment		
b)	Rise in household saving after the GFC		
c)	Fall in economic growth in China		
d)	Increase in government infrastructure spending		
e)	Rise in consumer confidence		
f)	Fall in the exchange rate		

10.7 THE MULTIPLIER PROCESS

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 caused by non-income factors, such as changes 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, chain reaction or multiplier process through an economy so the final change in economic activity is bigger than the change in expenditure that caused it.

Why is there a multiplier process?

The multiplier process occurs because of the connections 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, assume the WA Government signs a \$5b contract with a construction firm to build a railway to Perth Airport. The firm will need to buy capital equipment, use fuel and energy and hire workers creating incomes for their suppliers and workers. These incomes will, in turn, be spent and will create incomes for other people and so on.

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 rises by \$25b, the value of the multiplier is 2.5.

The formula can be rearranged as follows; Final change in real GDP = Autonomous change in expenditure x multiplier. For example, if exports rise by \$10b a year and the multiplier is 2.5, GDP will eventually rise by \$25b

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

The theories of British economist John Maynard Keynes revolutionised mainstream economic thinking in the 1930s. Amongst many other things, he proposed increasing government spending during the 1930s recession arguing that the multiplier process would make the stimulus package more or less self-funding. So 'k' is for Keynes!

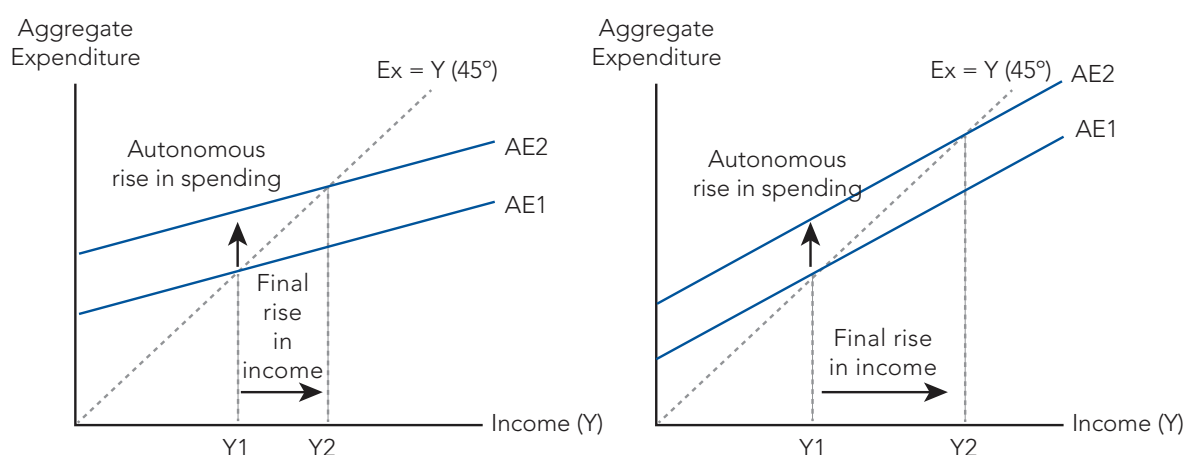
What determines the strength of the multiplier?

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 = Extra consumption/Extra income.
- The value of related marginal propensities is calculated in the same way, for example; Marginal propensity to save = Extra saving / Extra income.
- In a simplified three sector economy (with households, firms and banks) the multiplier coefficient (k) = $1 / (1 - \text{MPC})$ or $1 / \text{MPS}$ (where MPC = marginal propensity to consume and MPS = marginal propensity to save).
- In a full five sector economy (including the government and overseas sectors) the multiplier coefficient (k) = $1 / \text{MPL} = 1 / (\text{MPS} + \text{MRT} + \text{MPM})$ (where MPL = marginal propensity for leakages, MPS = marginal propensity to save, MRT = marginal rate of taxation, MPM = marginal propensity to import).

Are there ways of illustrating the multiplier process?

The 'Keynesian Cross' aggregate expenditure model shows that the final change in income is bigger than the change in spending that brought it about. In the left-hand pane, the aggregate expenditure lines are relatively flat consistent with a low marginal propensity to consume and, as a result, the multiplier is low (only a little above 1). In the right-hand pane, the aggregate expenditure lines are relatively steep consistent with a higher marginal propensity to consume and, as a result the multiplier is bigger (about 3).



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 stops in Australia there will be a drop in demand for car components, lower levels of consumption spending by people who lose 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 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.

How does the economy get from one equilibrium to another?

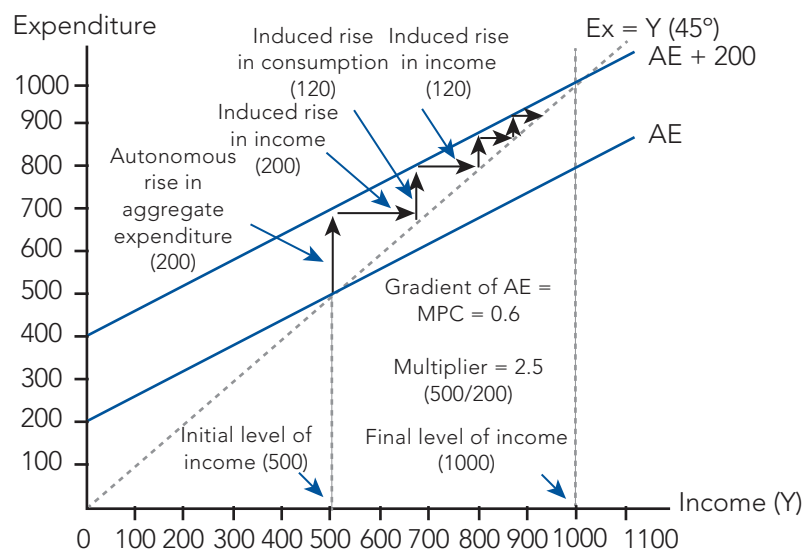
Assume an economy is in equilibrium at an income level of \$500b. Marginal propensity to consume is 0.6. Then there is an autonomous injection of \$200b into the economy. The table shows what happens as a result.

Rise in spending	Rise in income	Rise in leakages	Total rise in leakages	Total level of income	Explanation
-	-	-	-	500	Initial equilibrium level of income
200	200	0	0	700 (500 + 200)	Autonomous injection. One person's spending is another person's income
120 (200 × 0.6)	120	80 (200 × 0.4)	80	820 (700 + 120)	Extra income induces 200 × 0.6 extra consumption and 200 × 0.4 extra saving
72 (120 × 0.6)	72	48 (120 × 0.4)	128	892 (820 + 72)	Extra income induces 120 × 0.6 extra consumption and 120 × 0.4 extra saving
43.2 (72 × 0.6)	43.2	28.8 (72 × 0.4)	156.8	935.2 (892 + 43.2)	Extra income induces 72 × 0.6 extra consumption and 72 × 0.4 extra saving
25.9 (43.2 × 0.6)	25.9	17.3 (43.2 × 0.4)	174.1	961.1 (935.2 + 25.9)	Extra income induces 43.2 × 0.6 extra consumption and 43.2 × 0.4 extra saving

Leading eventually to...

0	0	0	200	1000	Multiplier = $1 / (1 - 0.6) = 2.5$ Income = $500 + (200 \times 2.5) = 1000$

This can be shown on an aggregate expenditure diagram.



Student Activity 10.7

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

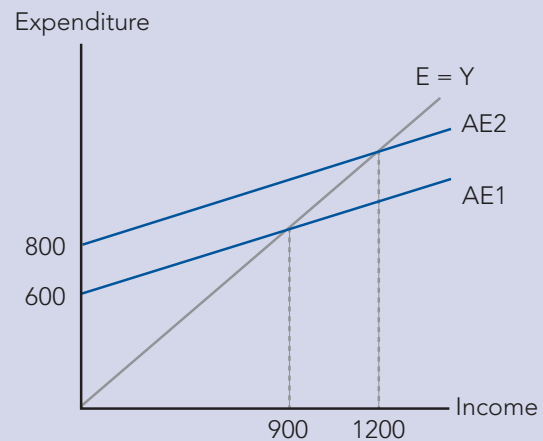
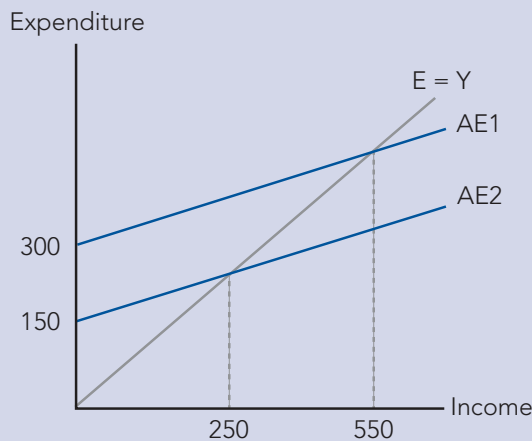
3. Complete the table below.

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)
1 st Round	64	$0.75 \times 64 = 48$	$0.25 \times 64 = 16$
2 nd Round	48	$0.75 \times 48 = 36$	$0.25 \times 48 = 12$
3 rd Round			
4 th Round			
5 th Round			
6 th Round			
Final total after infinite rounds			

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



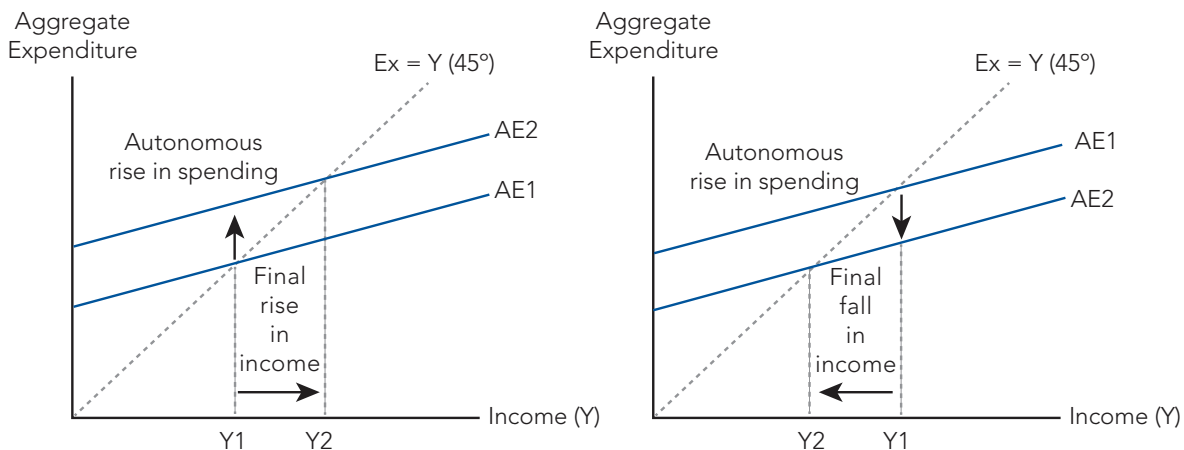
6. Complete the following table.

		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 into the economy. If 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)	

10.8 AGGREGATE EXPENDITURE AND MACROECONOMIC PERFORMANCE

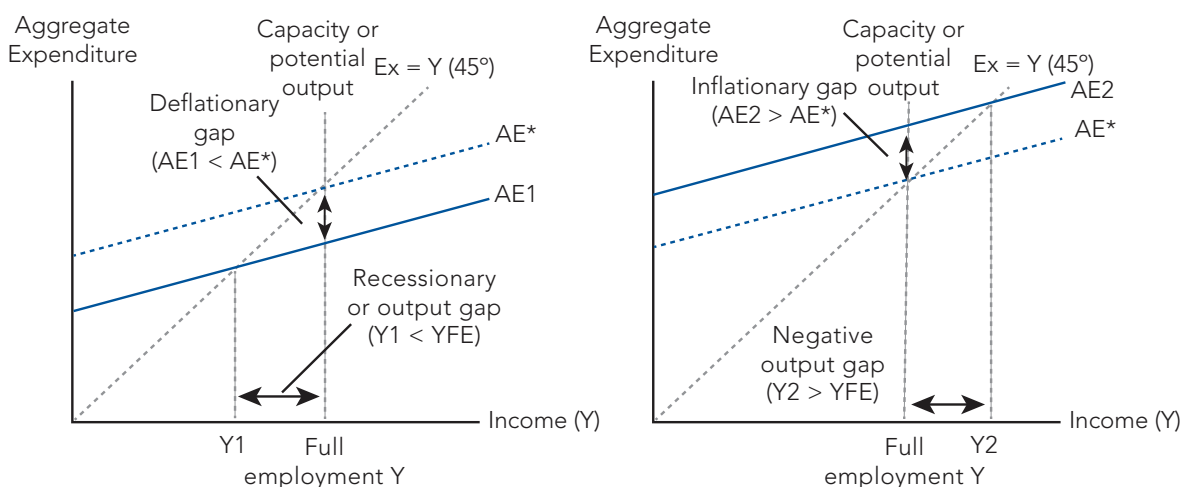
Can the Keynesian Cross model show economic growth?

Almost! The left hand pane shows that a rise in aggregate expenditure (from AE_1 to AE_2) will trigger a multiplier process that causes income to rise from Y_1 to Y_2 . There must have been some economic growth for this rise in income to occur. The right hand pane shows a fall in aggregate expenditure (from AE_1 to AE_2) which will, after a negative multiplier process, cause income to fall from Y_1 to Y_2 . There must have been some negative economic growth (or a recession) for this fall in income to occur.



Can the Keynesian Cross model show inflation and unemployment?

- Unemployment:** In the left hand pane aggregate expenditure (AE_1) is lower than the level needed to ensure full employment (AE^*). The shortfall in aggregate expenditure is called a deflationary gap. Actual income (at Y_1) is below the level of potential output (or full capacity). The gap between Y_1 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 pane aggregate expenditure (AE_2) is above the level needed for full employment (AE^*). The excess amount of aggregate expenditure is called an inflationary gap. Actual income (at Y_2) is above the level of potential output (or full capacity). The gap between Y_2 and full-employment Y is called a negative output gap. In this situation there will be demand-pull inflation.



SO YOU NOW THINK YOU UNDERSTAND AGGREGATE EXPENDITURE

Four components of AE 1 2 3 4 Hence formula is	Saving Definition Four factors that affect saving 1 2 3 4 Importance of saving 1 2
Consumption Definition Types – three pairs 1 2 3 C as proportion of AE	Planned private investment Definition Types 1 2
Five factors affecting consumption 1 2 3 4 5	Ip as proportion of AE Four factors affecting planned investment 1 2 3 4
Consumption function diagram Sketch one	Investment demand curve model Sketch one
Four features of model 1 2 3 4	Three features of model 1 2 3
Formula to calculate marginal propensity to consume (MPC)	Government spending Definition Types 1 2
Importance of MPC 1 2	G as proportion of AE

SO YOU NOW THINK YOU UNDERSTAND AGGREGATE EXPENDITURE

Net exports Definition Types 1 2 X-M as proportion of AE	Size of multiplier coefficient depends on: Formula (for simple 3 sector multiplier) Formula (for complex 5 sector multiplier)																												
Aggregate expenditure model Sketch diagram	Showing multiplier process using a table (MPS of 0.25) <table><tr><td></td><td>Injection</td><td>Income</td><td>Savings</td></tr><tr><td>Shock</td><td>64</td><td></td><td></td></tr><tr><td>Induced</td><td></td><td></td><td></td></tr><tr><td>Induced</td><td></td><td></td><td></td></tr><tr><td>Induced</td><td></td><td></td><td></td></tr><tr><td>Induced</td><td></td><td></td><td></td></tr><tr><td>Final total</td><td></td><td></td><td></td></tr></table>		Injection	Income	Savings	Shock	64			Induced				Induced				Induced				Induced				Final total			
	Injection	Income	Savings																										
Shock	64																												
Induced																													
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Final total																													
Five features of model 1 2 3 4 5	Showing multiplier process using Keynesian income/expenditure model																												
Consumption function diagram Sketch one	Importance of multiplier process 1 2																												
Multiplier Define 'multiplier process' Define 'autonomous' Define 'induced'																													
Two causes of the multiplier process 1 2 Formula for 'multiplier coefficient'																													
What can trigger a multiplier process? Autonomous change in 1 2 3 4																													

REALITY CHECK

Chapter 10: Aggregate Expenditure

1. Which one of the following is an accurate definition of aggregate expenditure?
 - (a) The sum of consumption, planned investment, government spending and net exports in a given time period.
 - (b) The amount firms and households plan to spend 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 the 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 is the smallest component of aggregate expenditure?
 - (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 a 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 level of net wealth of the household sector.
 - (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) Work out the change in aggregate expenditure after an 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.

Question (a) How is equilibrium determined in the aggregate expenditure model? [8 marks] (b) Describe the impact of fall in planned expenditure in the mining sector on the equilibrium level of income and output? [12 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
Evaluation / Conclusion	

AGGREGATE DEMAND AND AGGREGATE SUPPLY



SYLLABUS CHECKLIST

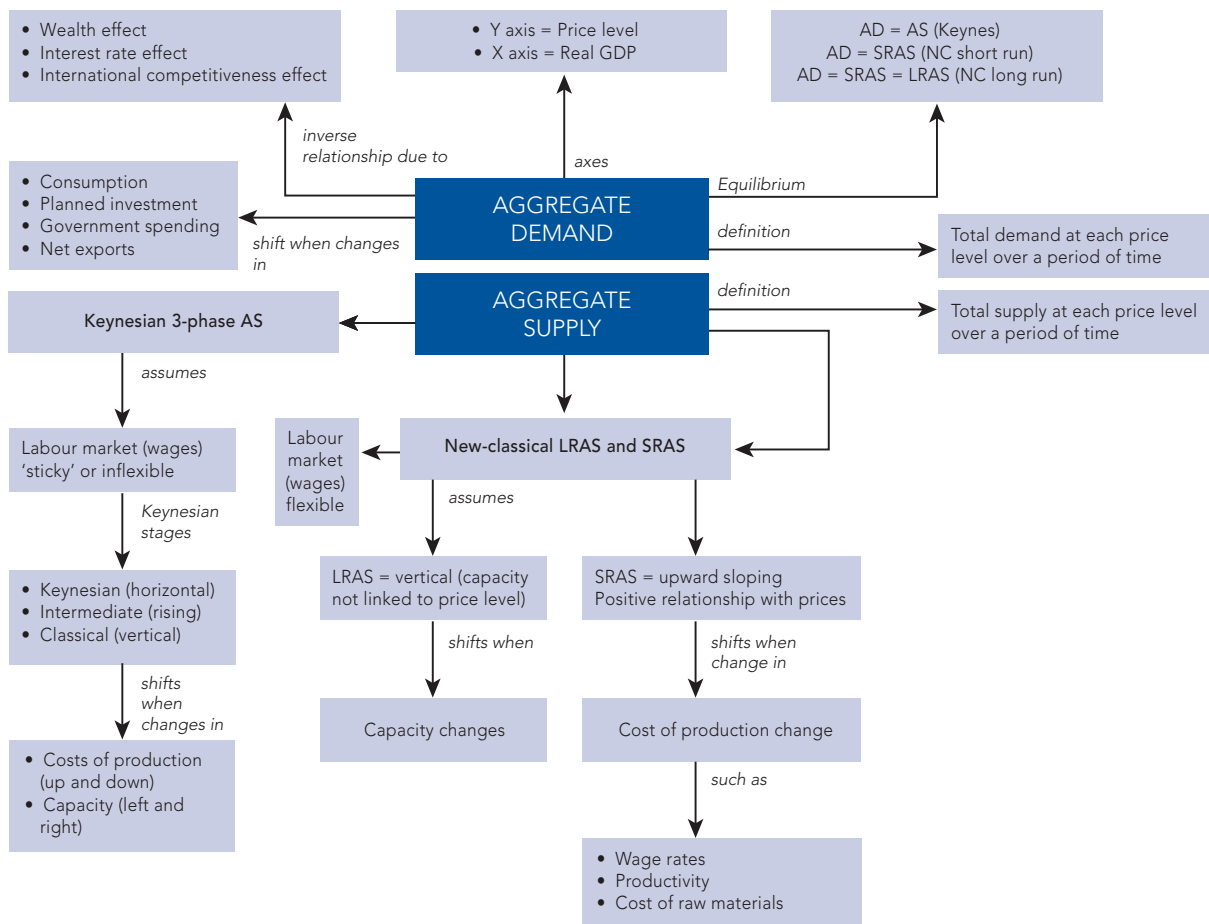
Topics covered in this chapter:

- ☐ The aggregate demand (AD) curve and factors that can cause movements along and shifts of the AD curve.
- ☐ The aggregate supply (AS) curve and factors that can cause movements along and shifts of the AS 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.

OVERVIEW – 10 STEPS TO UNDERSTANDING AGGREGATE DEMAND AND AGGREGATE SUPPLY MODEL

1	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.
2	The AD curve shows the level of aggregate demand over a period of time at different price levels. There is an inverse relationship between aggregate demand and the price level, so the AD curve slopes down and to the right. AD falls as the price level rises due to the impact of higher prices on interest rates, international competitiveness and on the level of households' real wealth.
3	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 it falls the curve shifts to the left.
4	AS is the level of final output of all producers in the economy over a period of time at different price levels. There are differing views about the appropriate way to represent aggregate supply.
5	New-classical economists separate short aggregate supply (SRAS) and long run aggregate supply (LRAS). They believe in a positive relationship between SRAS curve and the price level, so 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, is fixed. When production costs increase SRAS shifts upward and when production costs fall SRAS shifts downward. Short run equilibrium occurs where the SRAS curve and the AD curve cross.
6	New-classical economists believe that LRAS is fixed by the level of economic capacity and is independent of the price level. The LRAS curve, therefore, is a vertical line coinciding with the full capacity level of real GDP. If short-run equilibrium is above economy capacity (LRAS) there is a shortage in resource markets leading to a rise in resource prices. This causes an upward shift in the SRAS curve until equilibrium coincides with LRAS. If short-run equilibrium is below economy capacity (LRAS) there is a surplus in resource markets and a decrease in resource prices. This causes a downward shift in the SRAS curve until equilibrium coincides with LRAS.
7	There is only one Keynesian aggregate supply curve. There is no division between a short and a long run curve. Keynesian economists believe the economy gets stuck at the short run equilibrium position because resource markets are not flexible enough to allow the economy to adjust to the full capacity level of real GDP. The Keynesian AS curve has three phases, a horizontal (Keynesian) stage where the economy is well below full capacity, an intermediate stage as the economy moves closer to full capacity and a vertical (classical) stage when the economy reaches full capacity. Equilibrium occurs when the AS curve and the AD curve cross.
8	The new classical and Keynesian models both show the short run impact of changes in aggregate demand and aggregate supply. The difference between the models is whether short run equilibrium is just a temporary position from which the economy will self-adjust to full capacity or whether it is a longer term position that needs a government or Reserve Bank response to move it towards full capacity.
9	The model does not show the step-by-step changes in the multiplier process. A shift in AD incorporates both the autonomous change and the subsequent induced changes.
10	Whichever version of the model used, it is a very useful way of organising thinking about the impact of demand and supply shocks and the reasons behind the rise and fall of economic activity over the business cycle.

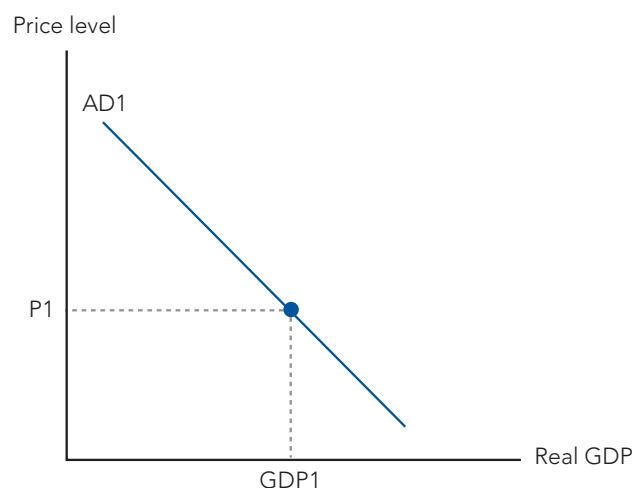
Aggregate Demand and Aggregate Supply mind map



11.1 AGGREGATE DEMAND (AD)

What is an aggregate demand curve?

- 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 amounts of goods and services that will be purchased over a given period of time at all possible price levels.
- Note, therefore, 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.



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 this inverse relationship between the price level and real GDP.

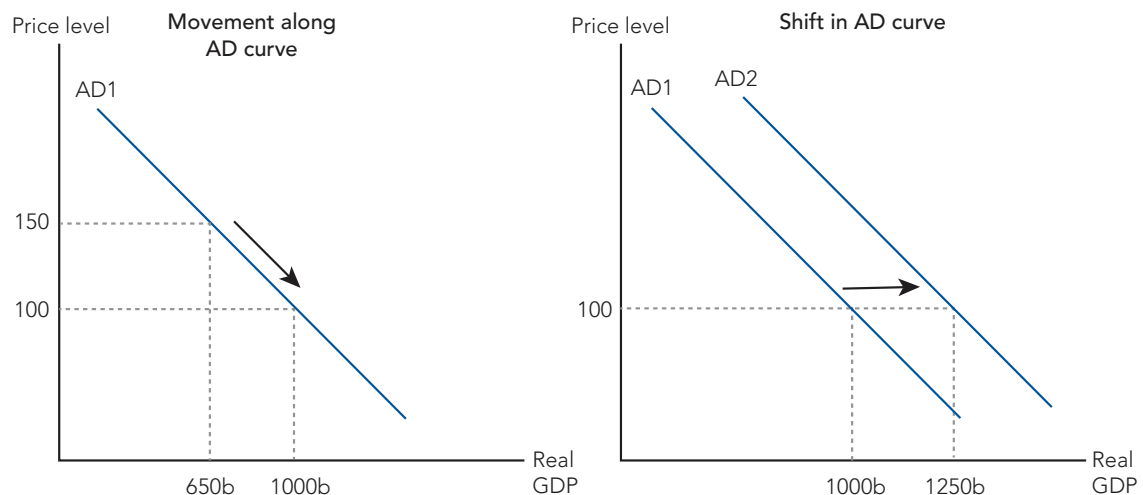
- **Interest rate effect:** Higher prices normally lead to higher nominal interest rates to reward or compensate savers for the effect inflation has on the real value of bank deposits and loans. Higher nominal interest rates tend to reduce consumption and investment.
- **Real balance or wealth effect:** 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 the price level overseas) make exports less competitive and imports more attractive. Therefore, the loss of competitiveness reduces the value of net exports.

Is aggregate demand the same as aggregate expenditure?

The components of aggregate demand and aggregate expenditure are the same, namely consumption, planned investment, government spending and net exports. However, as the aggregate demand curve and aggregate expenditure function slope in different directions, they cannot be the same. Aggregate demand shows the relationship between spending and the price level, while aggregate expenditure shows the relationship between spending and income.

What happens to the aggregate demand curve when there is a change in the price level?

Nothing happens to the aggregate demand curve, because the curve already shows the relationship between the price level and the level of real GDP. The left hand pane in the diagram below shows that, for example, when the price level falls from 150 to 100, aggregate demand expands from \$650b to 1000b.



What causes a shift in the position of an aggregate demand curve?

When a non-price level factor causes a change in the level of one or more of the components of aggregate demand ($C + I_p + G + X - M$) the aggregate demand curve will shift its position. There is a change in aggregate demand at each price level. The diagram in the right pane shows, for example, an increase in aggregate demand but a stable price level of 100.

Can you remind me about the causes of these non-price level changes?

Consumption	Income Real interest rates Wealth Consumer confidence or expectations
Planned Investment	Real interest rates Profitability New technology Business confidence and expectations
Government spending	Political philosophy about market economy Performance of the economy Demand management
Net exports	Cyclical factors (growth here and overseas) Structural factors (affecting international competitiveness) Shocks (e.g. drought and floods)

Student Activity 11.1

1. Complete the following table about the difference between microeconomic demand curves and the macroeconomic aggregate demand curve.

	Microeconomic demand curves	Macroeconomic aggregate demand curve
a) How many curves are there?		
b) What is shown on the Y axis?		
c) What is shown on the X axis?		
d) Where is equilibrium?		

2. What are the components of aggregate demand?

3. What happens to aggregate demand when:

a) The average level of prices rise	
b) Fall in government spending to help balance the budget	
c) Interest rates rise because of a rise in the price level	
d) Fall in investment in mining sector	
e) A rise in the domestic price level makes exports less competitive in overseas markets	
f) Net exports rise following a depreciation of the exchange rate.	
g) A rise in the price level reduces the real level of household wealth	
h) Households increase the level of saving as a result of fall in consumer confidence	

4. Why is there an inverse or negative relationship between aggregate demand and the price level (causing the AD curve to slope down and to the right)?

11.2 AGGREGATE SUPPLY

What is aggregate supply?

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 all the supply curves of individual producers in an economy.

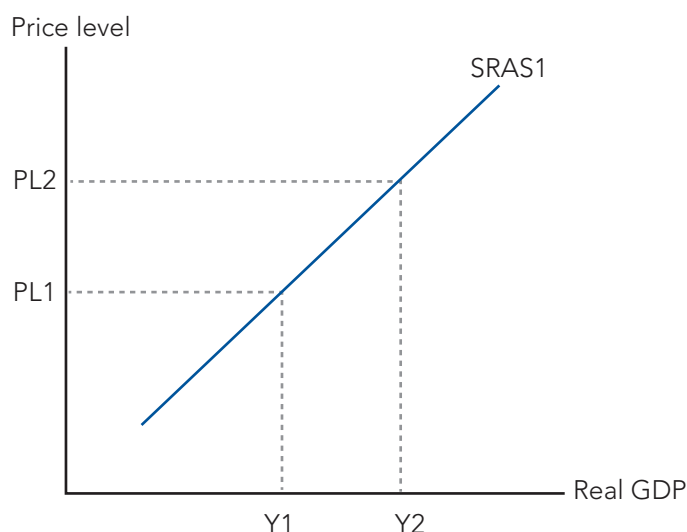
Why do different economists draw aggregate supply curves in different ways?

There are basically two schools of thought about aggregate supply, the new-classical view and the Keynesian view. They differ in their assumptions about the way the economy works and the factors that affect firms' willingness and ability to supply. In the new-classical model there are two aggregate supply curves, a short-run curve and a long run curve, while in the Keynesian model there is only one aggregate supply curve.

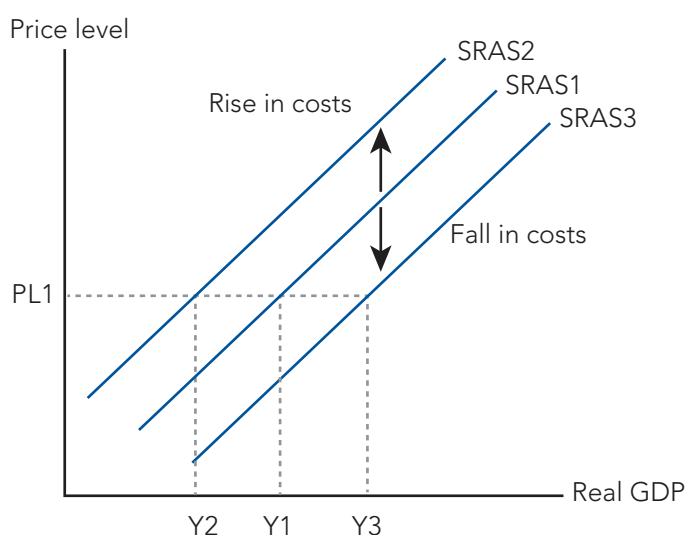
What does a new-classical short-run aggregate supply curve (SRAS) look like?

In macroeconomics the short-run is defined as the time period in which prices of factors of production do not change. For example, the wage level is fixed in the short run.

Short-run aggregate supply curves (SRAS) look like microeconomic supply curves, sloping upwards to the right. In the short-run, if firms want to expand output they will have to use their existing resources more intensively. Using extra workers, or their existing workers for more hours, may cause increasing costs as a result of diminishing marginal returns and because firms have to pay workers 'overtime' or 'penalty' rates. It is assumed that the basic wage rate (dollars per hour) is fixed.



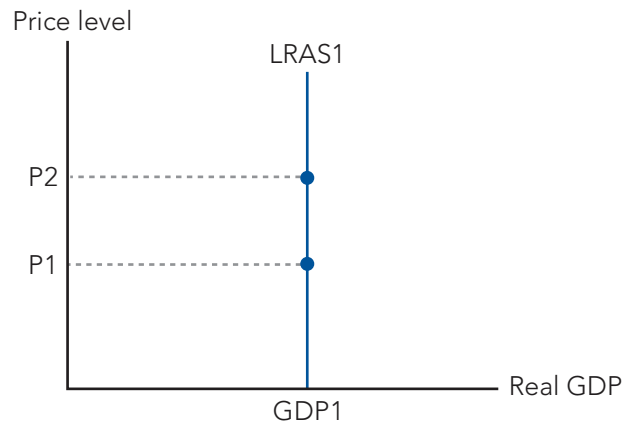
What causes a shift in the short-run aggregate supply curve?



SRAS shows the relationship between the willingness to supply (real GDP) and the price level in the short run. If production costs change the whole SRAS curve shifts its position. Production costs may change because of:

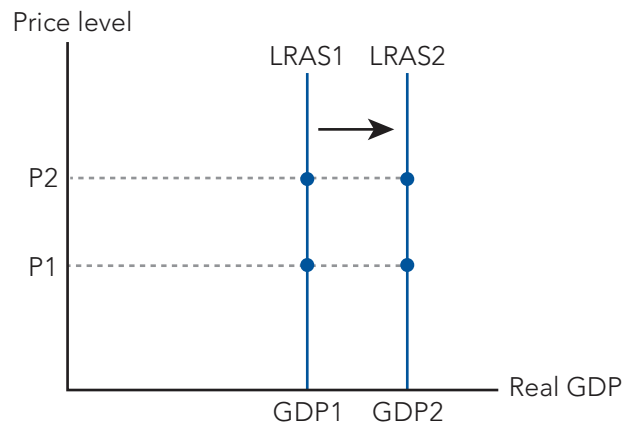
- Changes in wage rates
- Changes in productivity
- Changes in raw material prices (e.g. oil, iron ore)
- Changes in import prices (e.g. because of the changes in the exchange rate).

What does a new-classical long run aggregate supply curve (LRAS) look like?



- New-classical economists believe the long-run aggregate supply curve (LRAS) is vertical because it is independent of the price level.
- The position of the LRAS depends on the capacity of the economy or the potential output of the economy.
- When the economy operates at full capacity there will not be any cyclical unemployment.
- 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 Keynesian Cross aggregate expenditure model, the concept of potential GDP in the business cycle model and with the production possibility frontier model.

When does a new-classical long-run supply curve shift its position?



LRAS shifts to the left or right and as the capacity or level of potential GDP changes.

- LRAS shifts to the right if the capacity or level of potential GDP of the economy increases. This could be as a result of, for example, the discovery of more natural resources, investment in capital equipment incorporating new technology, a rise in productivity, or improved economic institutions
- LRAS shifts to the left if the capacity or the level of potential GDP of the economy decreases. This could be as a result of, for example, natural disasters, depreciation of capital equipment, outwards migration or a fall in productivity.

Could a change in aggregate demand cause a shift in LRAS?

Yes it could! Some of the examples already listed involve a rise in AD and a rise in capacity, such as investment in new technology or migration. Also, if AD falls causing a rise in unemployment, over time some people may become discouraged and leave the labour force (they join the hidden unemployed) or permanently lose their ability to work (skills atrophy).

Why does equilibrium move towards, and then settle at, full employment real GDP?

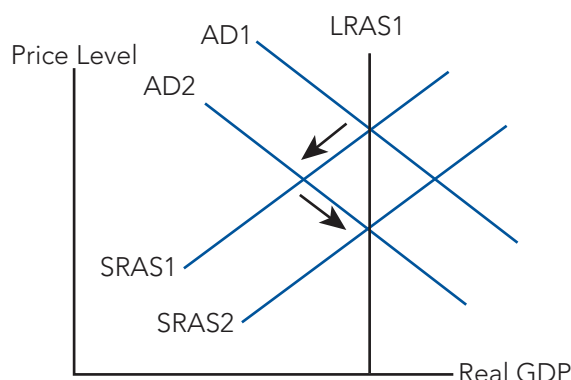
New-classical free-market economists believe that resource markets are flexible enough to adjust to market shortages and surpluses. For example, if, in the short run, firms try to supply a level of output above the sustainable level of potential output or capacity, prices in resource markets such as wages, energy and components will rise. Remember that in short run aggregate supply curves resource prices, particularly wages, are fixed. Any change in resource prices, therefore causes, firms to reassess their willingness to supply.

So is short-run equilibrium only temporary?

New-classical economists believe it is, because they believe market flexibility will cause resource prices to change and producers to adjust their willingness to supply.

If, as a result of a fall in aggregate demand, real GDP in the short-run is lower than the LRAS level this causes a deflationary, recessionary or output gap and cyclical unemployment and other surplus resources. Prices in these resource markets will fall leading to a downward (or rightward) shift in SRAS. The process continues until resources are being fully used again and the economy has returned to the LRAS real GDP level.

Similarly, if an inflationary gap is caused by a rise in AD, there will be a shortage of labour and other resources. Prices in these resource markets will rise and this will cause an upward (or leftward) shift in SRAS. This continues until the shortage of resources is eliminated at the LRAS real GDP level.



Just to be clear, please remind me why this happens

The key assumptions in the new-classical 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 will cause producers to adjust their willingness to supply (as shown on a SRAS).
- The long run capacity of the economy is independent of the economy's price level (as shown on a LRAS).

Does a shift in SRAS lead to a shift in LRAS and vice versa?

In many situations the result of changes in supply conditions are reflected in both the short run and long run aggregate supply curves. For example, if there is a rise in labour productivity as a result of technological change, production costs would fall (causing a downward shift in SRAS) and the capacity to produce would rise (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) and would cut delivery times and hence business costs (causing a downward shift in SRAS).

Why is this market-adjustment important?

If new-classical economists are correct then governments should:

- Focus on introducing policies that increase the capacity of the economy (i.e. that shift LRAS to the right).
- Focus on measures that increase flexibility in resource markets.
- Avoid active management of the level of aggregate demand.

Student Activity 11.2

1. Define the term 'aggregate supply'.

2. Complete the following table.

	Event	Explanation / Cause
a)	Upward shift in SRAS	
b)	Downward shift in SRAS	
c)	Movement along SRAS	

3. Why is the new-classical 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.

11.3 KEYNESIAN AGGREGATE SUPPLY CURVE

What are the assumptions behind the Keynesian aggregate supply curve?

Resource markets are not flexible and do not clear. It is possible, for example, for wage rates to stay above the equilibrium or market clearance level when there is a surplus of labour resources, i.e. cyclical unemployment. Wages are said to be 'sticky', particularly in a downward direction. Workers, especially, dislike accepting pay cuts.

Because resource markets do not adjust, there is no automatic process to take the economy to full capacity. There is no distinction between the short run and long run willingness to supply. Firms make changes to stock or inventory levels and keep prices more or less the same. The economy, therefore, can become stuck in equilibrium at less than full-employment for some time.

What are the three stages of the Keynesian aggregate supply curve?

Phase 1 – Keynesian stage

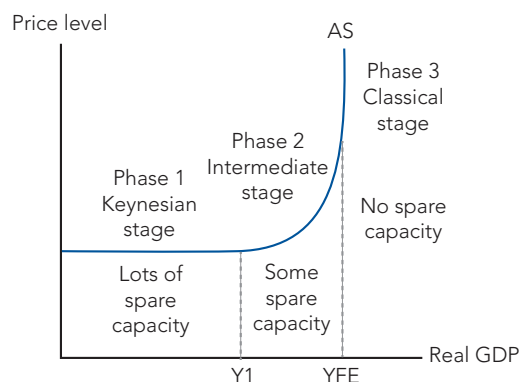
During this stage, AS is perfectly elastic. There is a low level of capacity utilisation and high unemployment. Firms can meet the demand for extra output and increase profits without raising prices because the cost of resources has not changed.

Phase 2 – Intermediate stage

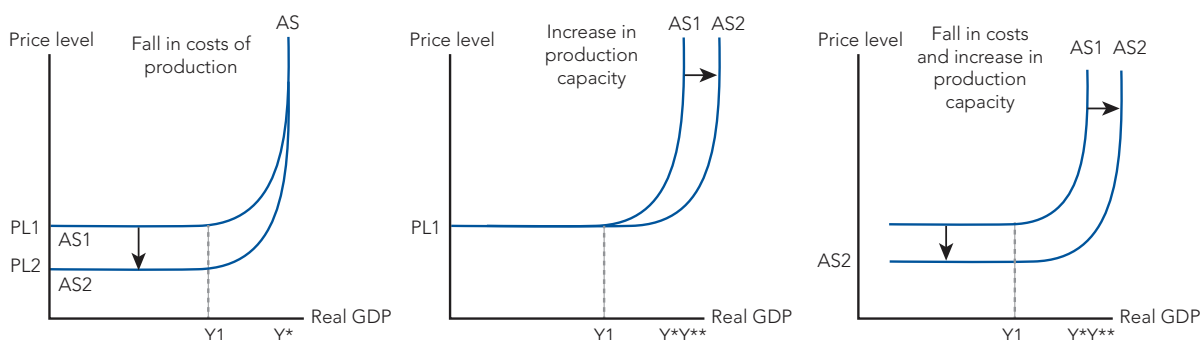
When real GDP is greater than Y_1 but below the level of income that creates full employment, resources become increasingly scarce and prices of these factors start to rise. This means, other things being equal, that producers will need to raise prices to maintain profits.

Phase 3 – Classical stage

When the economy reaches the income level that creates full employment, output cannot be increased further. Note that, in this model, firms can't push production beyond capacity or the level of potential output. Any extra demand for resources will be reflected in higher resource prices. Firms will need to raise prices to stay profitable.



When will the Keynesian aggregate supply curve shift its position?



The Keynesian aggregate supply curve shifts its position when:

- **Costs of production change:** The curve shifts in a downward direction when the costs of production fall and shifts in an upward direction when the cost of production increases.
- **Capacity or potential output changes:** The curve shifts to the right as the capacity of the economy increases and shifts to the left when capacity or potential output decreases.
- Both factors could, of course, happen at the same time, causing a diagonal shift down and to the right.

Student Activity 11.3

1. With the help of an example, explain why the Keynesian aggregate supply curve is upward sloping in its intermediate phase.

2. With the help of an example, explain why the Keynesian aggregate supply curve is vertical in its classical phase.

3. With the help of an example, explain why the Keynesian aggregate supply curve is horizontal in the 'Keynesian phase' when the economy has significant spare capacity.

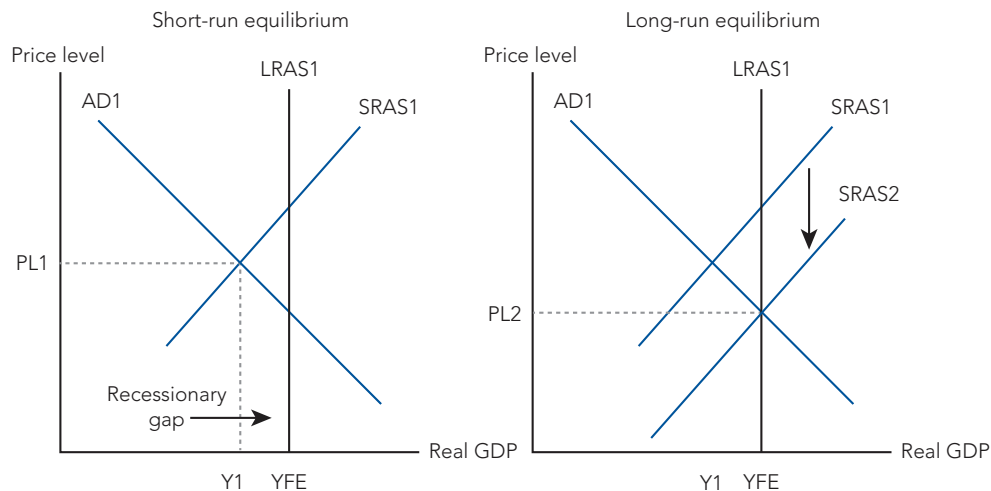
4. Is the Keynesian aggregate supply curve a short-run or long-run curve? Explain your answer.

5. With the help of examples, explain when the Keynesian supply curve will shift upward, downward, left and right.

11.4 EQUILIBRIUM IN THE NEW-CLASSICAL MODEL

When is the economy in short-run equilibrium?

Short-run equilibrium occurs when aggregate demand equals short-run aggregate supply (SRAS). The left hand pane 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.



Why is this only a short-run equilibrium position?

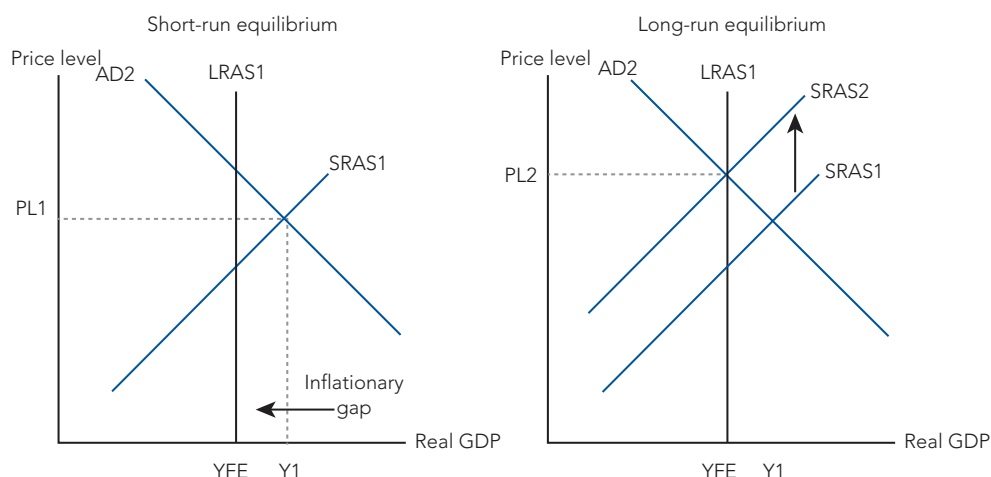
New-classical economists believe PL1/Y1 is only a short-run equilibrium position because the recessionary gap will cause a surplus in resource markets (e.g. there will be unemployment at existing wage rates) and the cost of resources will fall.

Where is the long-run equilibrium?

The long-run equilibrium is shown in the right hand pane. 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.

Would a similar sequence happen if the short-run equilibrium was above full employment real GDP?

Yes, it would. If for some reason aggregate demand rose to AD2, the short-run equilibrium position would become PL1/Y1. This level of real GDP is above the full-employment level of real GDP and an inflationary gap would have been created. There is now a shortage of resources and resource prices begin to rise (e.g. there are labour shortages and wage rates rise). The rise in resource costs causes a shift in SRAS (from SRAS1 to SRAS2). The rise in SRAS causes aggregate demand to contract until long equilibrium is reached where AD2, SRAS2 and LRAS1 all cross.



So according to new-classical economists, long-run equilibrium is always at the full employment level of real GDP, but at a higher or lower price level.

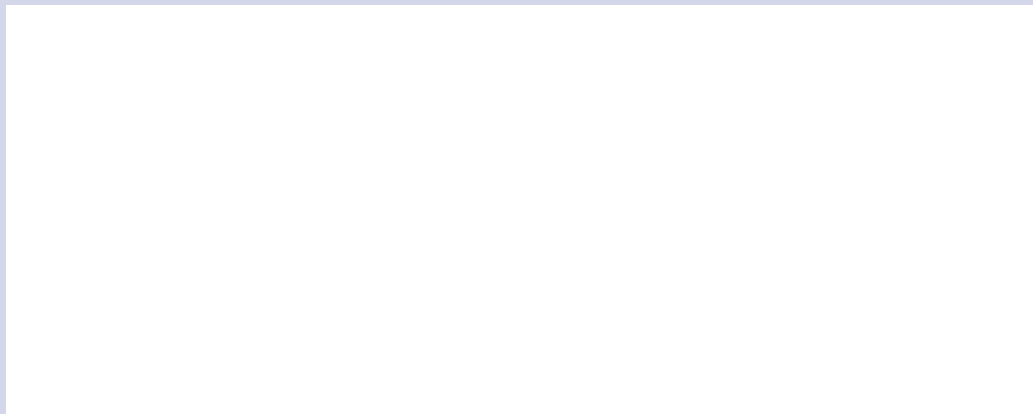
If this is correct what should be the government's policy response?

The fundamental difference between new-classical economists and Keynesian economists is that new-classical economists believe changing factor prices (e.g. wages) cause a shift in SRAS and allow the economy to 'self-adjust' to the long-run equilibrium full-employment level of real GDP. Keynesian economists believe the economy does not self-adjust because wages and other resource prices are 'sticky'.

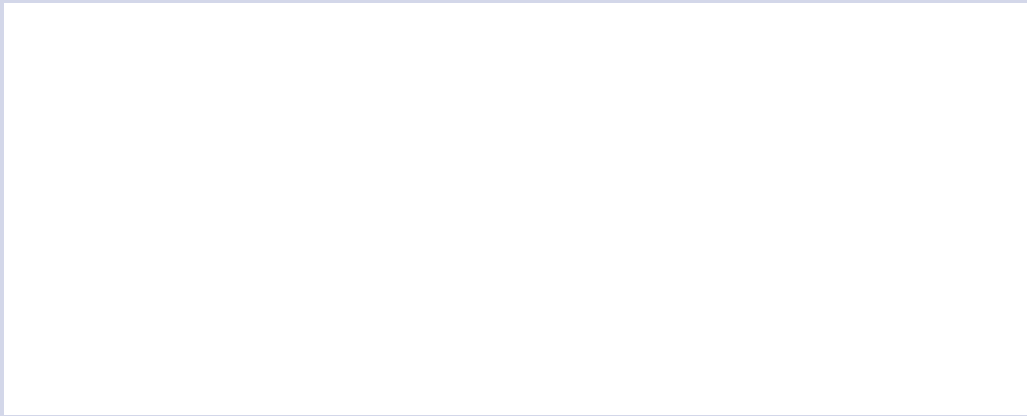
Therefore, new-classical economists believe that governments and central banks do not need to increase aggregate demand through reflationary demand-side measures (e.g. extra government spending, lower taxes and lower interest rates). Indeed they argue that this, in the long run, could make matters worse (e.g. because countries will build up sovereign debt). The correct policy response for a new-classical economist is to look at the supply side of the economy to ensure markets are sufficiently flexible (or deregulated) and competitive to allow the self-adjustment process, through changes in SRAS, to take place quickly.

Student Activity 11.4

1. What determines the short-run equilibrium position for an economy? Draw a diagram to show this.



2. What determines the long equilibrium position for an economy, according to new-classical economists? Draw a diagram to show this.

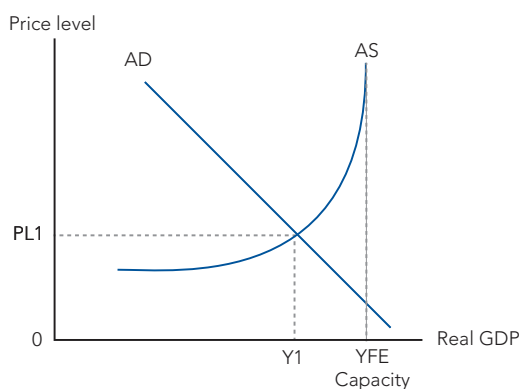


3. State why, according to new-classical economists, the short-run equilibrium established following a fall in the level of aggregate at the point where AD and SRAS cross, is not the final equilibrium position for an economy.

4. What, according to new-classical economists, is the correct policy response to a recessionary or deflationary gap?

5. Explain the essential difference between the new-classical and Keynesian aggregate supply curves? Does it matter which approach is correct?

11.5 EQUILIBRIUM USING THE KEYNESIAN MODEL



Equilibrium occurs when aggregate demand (AD) equals aggregate supply (AS). Equilibrium may occur at different levels of real GDP. In the diagram equilibrium is at PL1 / Y1.

In the Keynesian way of thinking this is the end of the story. In contrast to the new classical model, the economy can remain stuck in a deflationary or recessionary gap because there is no self-adjustment process to bring the economy back to the full-employment level of income. Resource markets, especially labour markets, are 'sticky' and do not clear.

Student Activity 11.5

1. Why is the Keynesian aggregate supply curve not linear? Why does the rate of inflation rise as real GDP approaches capacity?

2. Why, in the diagram, according to Keynesian economists, is the economy in both short and long-term equilibrium at real income level Y1?

3. List three factors that reduce flexibility in labour markets, and prevent wages falling to a level that 'clears' the market?

4. What, according to Keynesian economists, is an appropriate response for the Government and Reserve bank when an economy is stuck with a recessionary or output gap?

11.6 SHOCKS

Why does an economy move from one equilibrium position to another?

The economy is disturbed from equilibrium by shifts in aggregate demand and/or aggregate supply. A shift in aggregate demand can be referred to as a demand-side shock and a shift in aggregate supply as a supply-side shock.

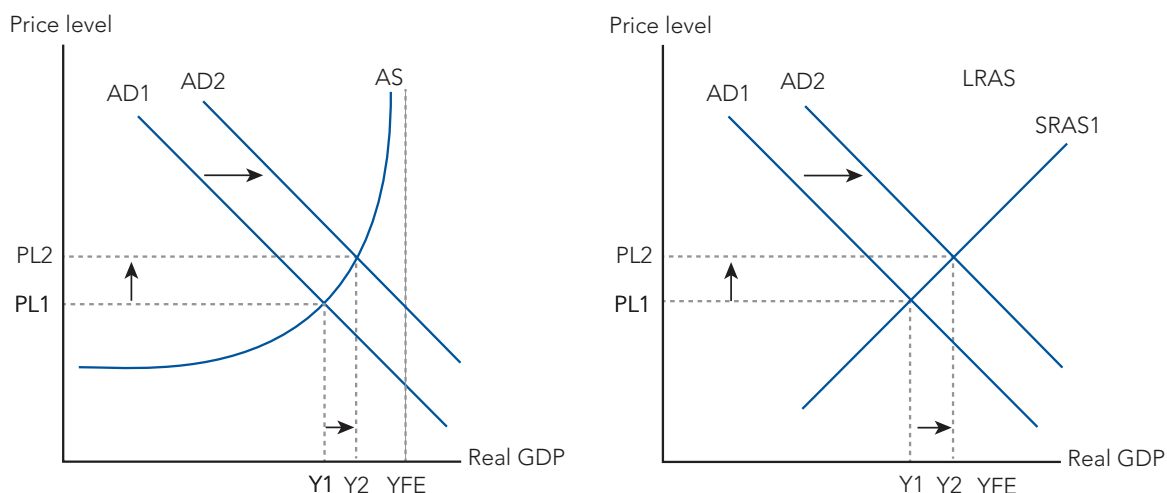
Is it easy to tell a demand-side shock from a supply-side shock?

In many cases a shock will affect both aggregate demand and aggregate supply. For example, a 50% fall in the price of oil increases aggregate demand by increasing real incomes and increases aggregate supply by reducing energy and transport costs. It may be helpful to think in terms of a primary or main impact and a secondary or side impact when analysing the effect of a shock.

Given that there might also be dynamic effects linking changes in aggregate supply to changes in aggregate demand (e.g. by changing the size of the active labour force) and linking the short and long run aggregate supply curves, it is clear that, in the real world, explaining the impact of a shock on the economy is quite complex. 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.

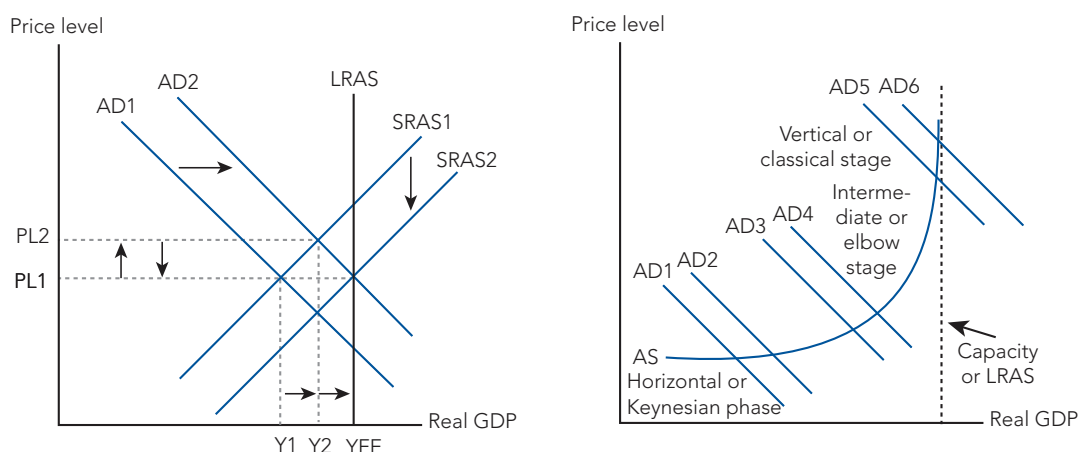
What happens when there is a positive demand shock?

A positive demand shock leads to an increase in aggregate demand. It could result from a rise in autonomous consumption, a rise in planned investment, an increase in government spending or a rise in net exports. Common sense suggests the outcome will be a rise in real GDP (economic growth), a fall in unemployment and a rise in the price level (inflation). Is this what the models show?



- In the left hand Keynesian diagram AD rises from AD1 to AD2. Equilibrium moves from PL1 / Y1 to PL2 / Y2. Real GDP has risen so there has been some economic growth and the price level has risen so there has been some inflation. The size of the output or recessionary gap is smaller ($YFE - Y1$ to $YFE - Y2$) so it is cyclical unemployment has probably fallen. A line illustrating the change in unemployment will be added later.
- In the right hand new-classical diagram AD also rises from AD1 to AD2. The result in the short run is the same. Equilibrium moves from PL1 / Y1 to PL2 / Y2. There is short run economic growth, some inflation and a fall in cyclical unemployment. But given there is still an output or recessionary gap SRAS will move downward leading to more growth, a fall in the price level almost back to P1 and no cyclical unemployment.
- Smart readers will be wondering about the original position of SRAS1. Why had the self-adjustment process not caused SRAS 1 to shift downwards before the demand shock happened? A good question!

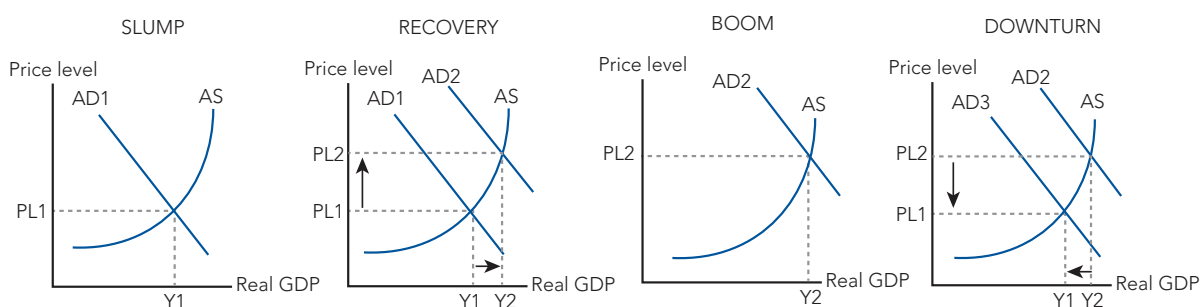
- Smart readers will also be thinking that if the shift in AD was, for example, caused by a rise in planned investment or government spending on infrastructure, it might have caused LRAS to shift to the right as well.
- Finally, smart readers will see that in the Keynesian diagram the impact of a rise in demand depends on where AD crosses AS. When the economy is in a slump or trough a rise in AD (AD1 to AD2) can cause a rise in output without any lift in inflation. When there is some spare capacity a rise in AD (AD3 to AD4) leads to a rise in output and some inflation. When the economy operates at full capacity extra AD (AD5 to AD6) is reflected only in higher prices.



Business cycles are caused by changes in AD aren't they?

Yes! The models 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.



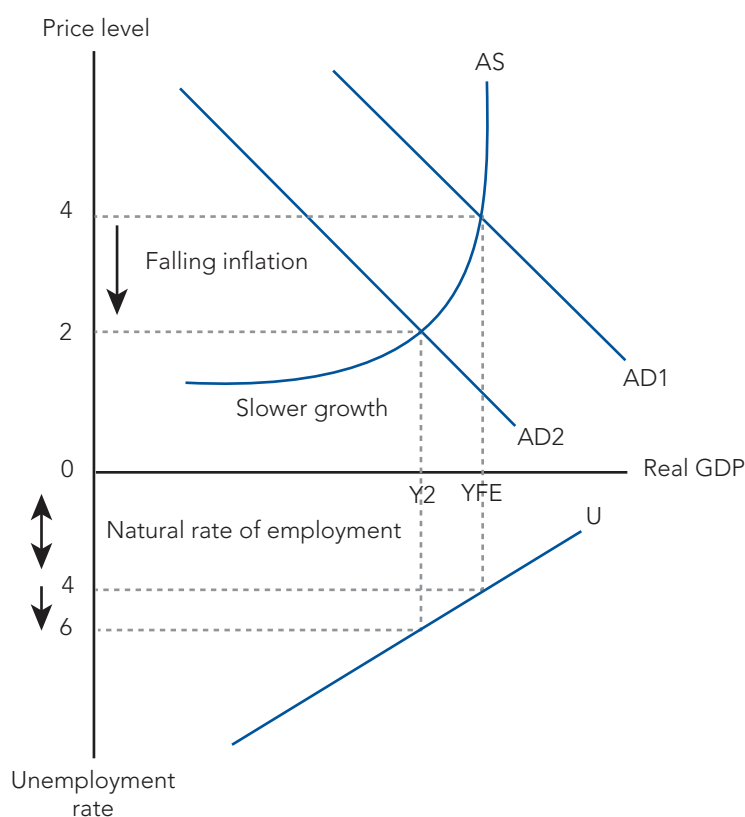
What has happened to the multiplier?

It is still there! However, it is not easy to see in aggregate demand and aggregate supply models. There is no equivalent step-by-step diagram to the 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 both 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.

How can we see what is happening to unemployment?

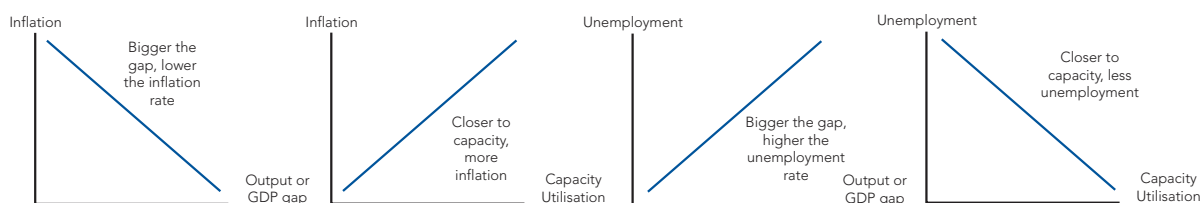
For some questions it can be useful to add an unemployment line (U) below an aggregate demand and aggregate supply diagram. Note the unemployment line is inverted. In the diagram:

- At the level of potential output (YFE) there is some natural unemployment (e.g. structural, frictional and real wage unemployment) and 4% inflation.
- A fall in AD from AD1 to AD2 reduces real GDP to Y2, reduces inflation to 2% and adds 2% of cyclical unemployment (making the total level 6%).
- The position of the unemployment line depends on the level of natural unemployment.
- The gradient of the unemployment depends on the labour intensity of production.

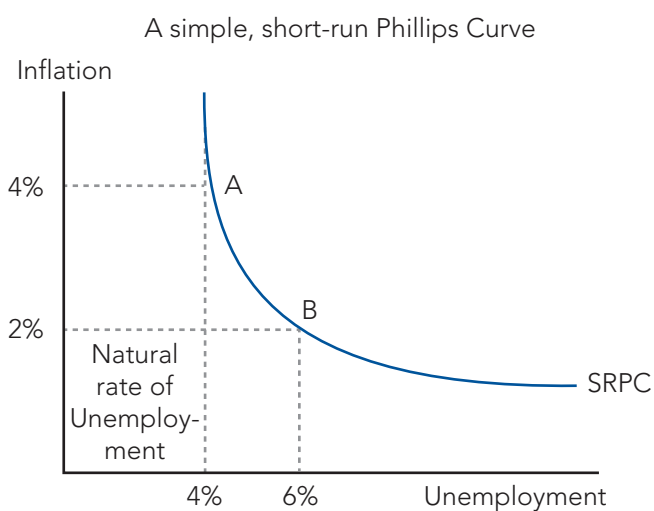


So when there is a fall in aggregate demand unemployment rises and inflation falls?

Everything else being equal, when there is an increase in aggregate demand, the output gap decreases and capacity utilisation increases. As a result demand-pull inflation rises and cyclical unemployment falls. When there is a decrease in aggregate demand, the output gap increases and capacity utilisation decreases. As a result demand-pull inflation falls and cyclical unemployment rises.



This inverse relationship between demand-pull inflation and cyclical unemployment is shown on a simple, short-run Phillips Curve. At point A on the curve the economy is operating at potential output with full capacity utilisation and no output gap. With a fall in aggregate demand demand-pull the economy moves to point B. There is now some spare capacity and an output gap. Demand-pull inflation falls and there is some cyclical unemployment. Of course, in the real world other things are never equal, and the actual relationship between inflation and unemployment will be more complex than this.



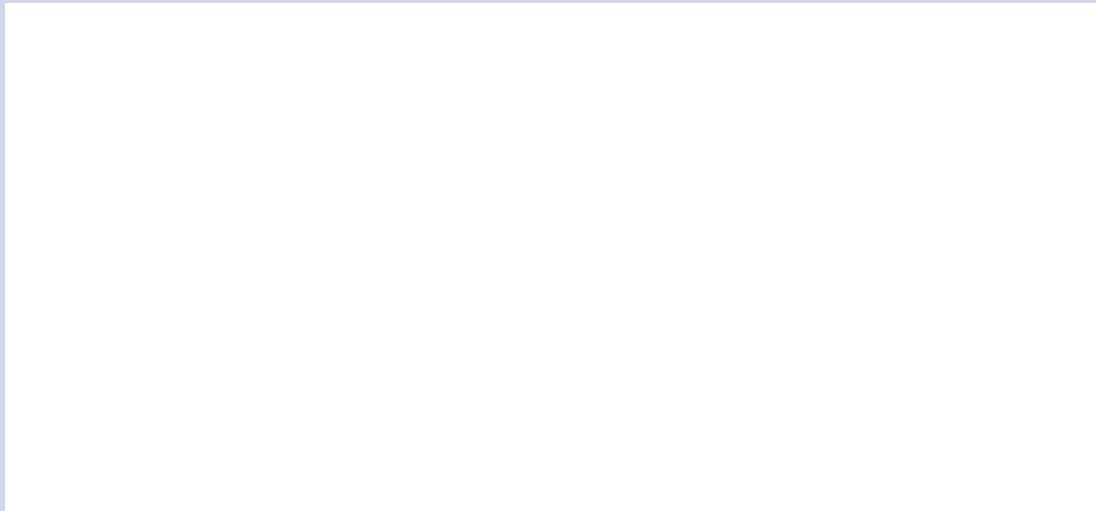
Student Activity 11.6

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. What is the simple Phillips Curve relationship between inflation and unemployment? Why does the relationship exist?

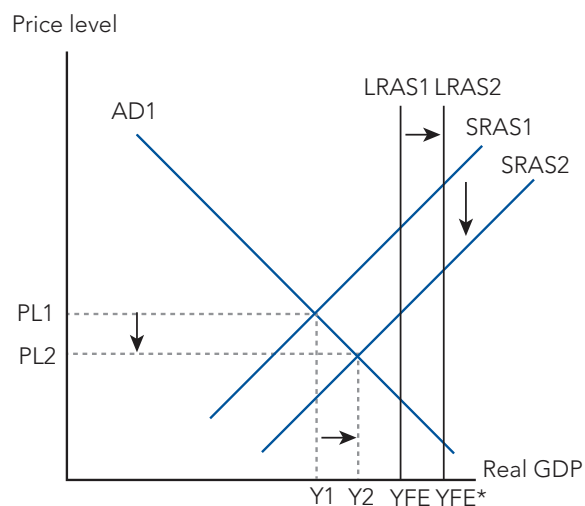
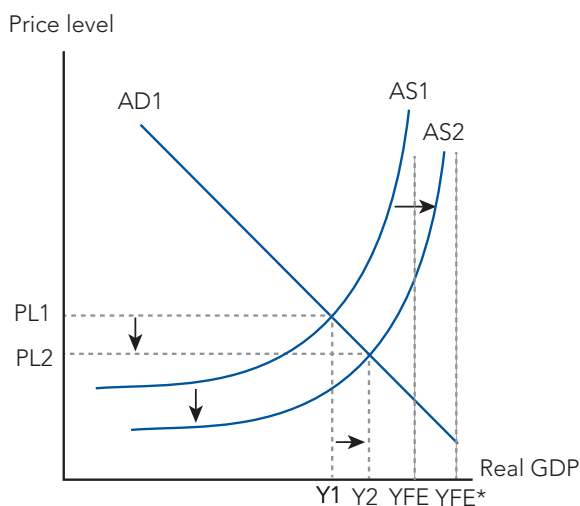
3. Draw two aggregate demand and aggregate supply diagrams to show the difference between an economy in equilibrium in a boom and equilibrium in a slump or trough.



11.7 IMPACT OF A SUPPLY SHOCK

What happens when there is a positive supply shock?

A positive supply shock leads to a downward shift in SRAS and/or a rightward shift in LRAS. A supply shock might be caused, for example, by a fall in the costs of production or an increase in the capacity or potential output of the economy.



- In the left hand Keynesian diagram AS has shifted down and to the right (AS1 to AS2). The result is a fall in the price level (from PL1 to PL2) and a rise in real GDP (from Y1 to Y2). The output or recessionary gap has not changed much so cyclical unemployment may or may not have fallen.
- In the right hand new-classical diagram SRAS has shifted down (SRAS1 to SRAS2) and LRAS has shifted to the right (LRAS1 to LRAS2). The short-run result is the same. There is lower inflation and some economic growth but the impact on unemployment is uncertain.
- In the long run, because there is still an output or recessionary gap (now $YFE^* - Y2$) SRAS will continue to fall as resource markets and the economy self-adjust. It will fall until it reaches the point where SRAS, AD1 and LRAS2 all cross.

Student Activity 11.7

1. Complete the following table.

	Supply-side shock	Direction of shift in AS (left or right)	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 business investment				

11.8 CASE STUDIES

How can the aggregate demand and aggregate supply model be applied to real world situations?

The aggregate demand and aggregate supply model helps organise the way economists analyse the impact on the economy of real world demand and supply shocks. Remember, models are simplified versions of the real world. As long as the model helps economic analysis and produces outcomes consistent with common sense expectations, the shape of lines, within reason, is not especially important.

EXAMPLE 1 - End of the mining investment boom

Early in 2015 Australia was experiencing the end of the mining investment boom as a result of slower growth in China and a fall in commodity prices. The rapid expansion of the resources sector had made a significant contribution to economic growth and national income in the previous decade but it had also made it harder for some manufacturing and service sector industries to remain internationally competitive.



Impact on Aggregate Demand	Impact on Aggregate Supply
Positive: Manufacturing and service sector demand rises due to fall in exchange rate Mining exports remain strong (Increased capacity allows extra volume compensates for lower prices) Reduced demand for mining investment finance allows interest rates to fall, in turn, helping consumer spending and business investment to increase	Positive: Investment in other areas of the economy helps create extra capacity Wage rates are only rising slowly
Negative: Reduction in planned investment in mining Labour resources released to work in housing and infrastructure construction Lower household spending as terms of trade cause fall in terms of trade	Negative: Higher exchange rate raises the cost of imported consumer and capital goods
Overall: Small decrease in short-run until economy 'rebalances'	Overall: Small shift in SRAS down and in LRAS to the right
Conclusion: The unwinding of the mining investment boom will have less of an impact on the economy than many people think	

EXAMPLE 2 – The fall in oil prices

The slump in world oil prices by more than a half in late 2014 / early 2015 led to a 40 cents per litre drop in the price of petrol. Each time a car tank was filled up, motorists saved between \$20 and \$30 – freeing up money that could be spent elsewhere. If prices remained at this level throughout 2015 it would be the equivalent of an interest rate cut of 0.5% or a \$1,100 pay rise for each household before tax.

Impact on Aggregate Demand	Impact on Aggregate Supply
Positive: Rise in disposable income Rise in consumer confidence Australian dollar may fall further	Positive: Reduced transport costs
Negative: Lower export prices and reduced investment for energy companies (e.g. Santos and Woodside) Drop in wealth of shareholders oil stocks	Negative: Capacity in energy sector held back by lower investment May boost investment in other sectors of economy
Overall: Moderate rise in AD	Overall: Moderate shift in SRAS down. Little direct effect on LRAS
Conclusion: Cheaper oil prices will help economic performance.	

Student Activity 11.8

1. Draw an aggregate demand and aggregate supply diagram to show the overall effect of a) the end of the mining investment boom and b) the fall in oil prices.

2. Identify a demand or supply shock from the overseas sector (e.g. slowdown in the rate of growth in China, depreciation in the exchange rate value of the Australian Dollar, fall in terms of trade or a introduction of new trade agreement with Japan). Draw up a table to analyse the impact of your chosen shock. Draw an aggregate demand and aggregate supply diagram to show the overall effect of your shock.

SO YOU NOW THINK YOU UNDERSTAND AGGREGATE DEMAND AND SUPPLY

Performance of which three macroeconomic objectives is shown using AD/AS model? 1 2 3 Define aggregate demand/Sketch diagram	Crucial assumptions Keynesian economists make about resource markets and resource prices 1 2
Four components of aggregate demand 1 2 3 4	Three phases or stages of Keynesian AS curve 1 2 3
AD shifts when... Movement along AD when... Define aggregate supply	Short-run equilibrium position In new classical model In Keynesian model
Sketch new-classical SRAS and LRAS	Long-run equilibrium position In new classical model In Keynesian model
Crucial assumptions new-classical economists make about resource markets and resource prices 1 2	Phillips Curve relationship shows trade-off between 1 2
SRAS shifts when... Position of LRAS LRAS shifts when...	Sketch simple short-run Phillips Curve
	Sketch AD/AS diagrams to show different stages of business cycle

REALITY CHECK

Chapter 11: Aggregate Demand and Supply

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. In the Keynesian way of thinking, which one of the following leads to both short and long term equilibrium in the economy?
 - (a) Aggregate demand equals aggregate supply.
 - (b) Actual GDP equals potential GDP.
 - (c) Income equals aggregate expenditure.
 - (d) Short-run aggregate supply equals long-run aggregate supply.

3. A rise in the average price level in the economy causes a contraction in aggregate demand because it causes:
 - (a) An increase in the real value of household wealth
 - (b) A fall in nominal interest rates
 - (c) A rise in the level of imports
 - (d) A rise in the level of tax paid by business and households

4. In the Keynesian way of thinking, when there is a recessionary or output gap in an economy:
 - (a) this will only be a temporary situation because production costs will fall and full employment will be restored.
 - (b) this will be a 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 and close the output gap.

5. What happens to aggregate supply when there is an increase in labour productivity?
 - (a) Aggregate supply shifts in an upward direction.
 - (b) Aggregate supply shifts in a leftward direction.
 - (c) Aggregate supply shifts in a downward and rightward direction.
 - (d) Aggregate supply does not shift because labour productivity only affects aggregate demand.

6. When an economy is operating at the full employment (or potential) level of real GDP the new-classical long run aggregate supply curve and the Keynesian aggregate supply curve is:
 - (a) horizontal.
 - (b) diagonal, sloping down to the right.
 - (c) diagonal, sloping up to the right.
 - (d) vertical.

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 supply model suggests that the result of a significant fall in the price of oil (and hence petrol) will be:
- (a) a fall in the price level and a fall in real GDP.
 - (b) a rise in real GDP but the price level might rise or fall.
 - (c) a fall in the price level but real GDP might rise or fall.
 - (d) a rise 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.

Question a) What determines the shape and position of the aggregate demand curve? [8 marks] b) Using the aggregate demand and aggregate supply model, explain the impact of a rise in labour productivity on the macroeconomic performance of the Australian economy. [12 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

ECONOMIC POLICY OBJECTIVES



SYLLABUS CHECKLIST

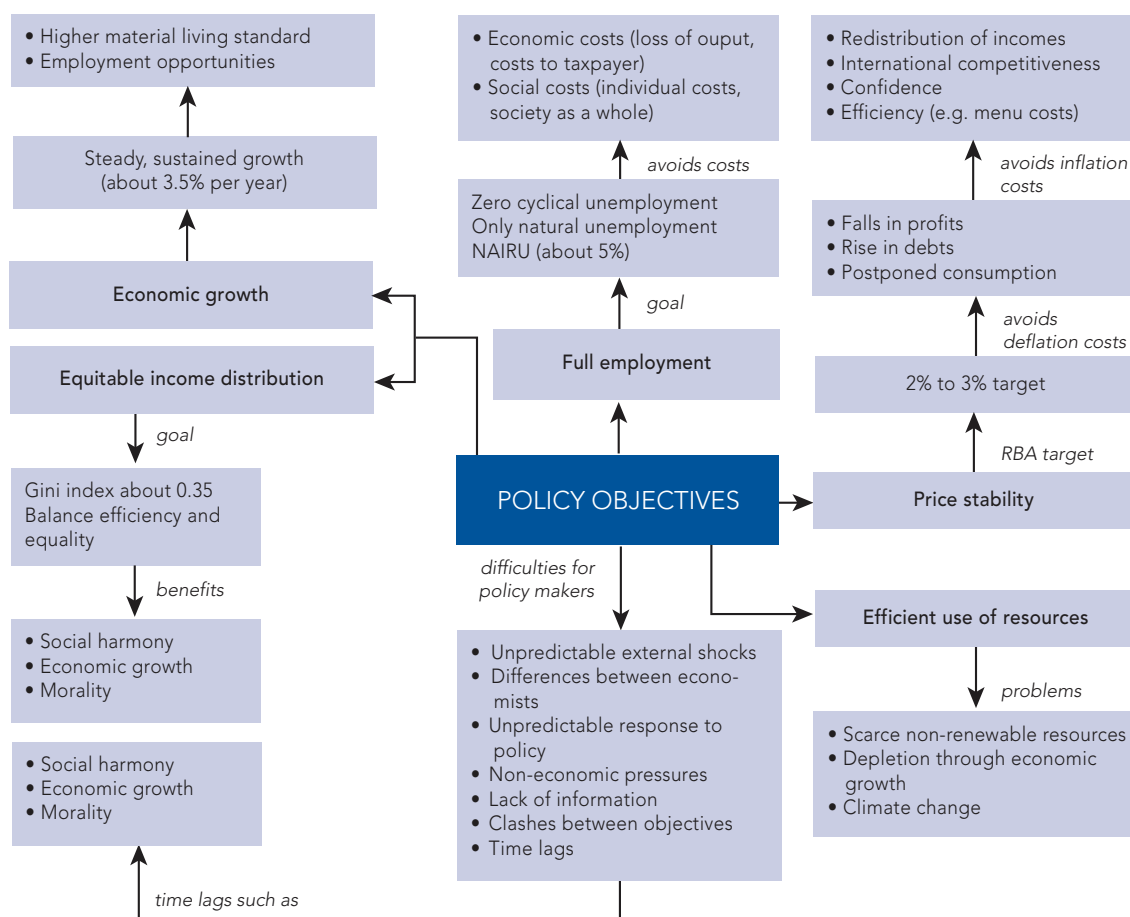
Topics covered in this chapter:

- ☐ The economic objectives of the Australian Government: Sustainable economic growth; low inflation (price stability); low unemployment (full employment); a more equitable distribution of income; the efficient allocation of resources.
- ☐ The economic policy objectives of the Reserve Bank of Australia (RBA).
- ☐ The extent to which the economic objectives of the Australian Government may conflict and complement each other.
- ☐ The time lags which occur in the use of economic policies i.e. recognition, decision (implementation) and effect (impact) lags.

OVERVIEW – 10 STEPS TO UNDERSTANDING ECONOMIC POLICY OBJECTIVES

1	Macroeconomic management is an important government role. The objective of this management is the achievement of (a) steady, sustained economic growth, (b) price stability or low inflation, (c) full employment, (d) an equitable distribution of income and (e) an efficient allocation of resources.
2	The Reserve Bank of Australia works independently of the government to achieve similar outcomes for the economy.
3	Steady sustained growth is important because it allows people in the economy to enjoy rising material living standards and because it creates employment opportunities. Growth, however, is unlikely to be balanced across all sectors and regions in the economy and may cause environmental damage.
4	Rather than aiming for absolute price stability or zero inflation, the government and Reserve Bank aim for an annual inflation rate between 2% to 3% on average over the life of the business cycle. Achievement of the inflation target creates and maintains business and consumer confidence, keeps Australia internationally competitive, avoids too much income redistribution and avoids some sources of economic inefficiency.
5	The 2% to 3% inflation target makes it less likely that the economy will slip into deflation or falling prices. Deflation is associated with negative growth and high unemployment because consumption spending is postponed and the real value of debts rises. Profits fall because prices tend to fall by more than business costs.
6	The goal of full employment is interpreted as keeping unemployment at the natural rate of unemployment and/or the non-accelerating inflation rate of unemployment (NAIRU). Cyclical unemployment is zero at the natural rate of unemployment but structural, frictional, real wage and residual unemployment persists. Unemployment causes both economic costs (e.g. loss of production and welfare costs for the government) and social costs (e.g. to society as a whole and for unemployed individuals).
7	An equitable distribution of incomes is important for moral reasons, social harmony and for economic growth.
8	When aggregate demand changes without changes to aggregate supply, some objectives are complementary while others clash. If aggregate supply changes all objectives can be achieved at the same time and are, therefore, complementary.
9	Three main policies are used in economic management; (a) fiscal policy changes in the balance between government spending and taxation, (b) monetary policy changes in interest rates as a result of changes in the RBA's cash rate and (c) supply-side reforms which should be market orientated when there is no market failure and interventionist where there is market failure.
10	Management of the economy is not straightforward. For example, there are a number of time lags involved in the process, including recognition lags (being certain the economy is off course), decision and implementation lags (working out what to do, putting measures in place and getting legislation through the parliament) and effect or impact lags (time before households and businesses respond to the policy changes).

Economic Policy Objectives mind map



12.1 ECONOMIC POLICY OBJECTIVES

Why does the government intervene in the economy?

The Government intervenes in the economy to perform four main roles:

- **Allocative role:** The government directly allocates resources to provide public and merit goods and services
- **Regulatory role:** The government regulates business activity and markets e.g. to control monopoly power or prevent negative externalities
- **Redistributive role:** The government provides a social security safety net, where needed, through a system of taxation and transfers
- **Demand management role:** The government manages the level of aggregate demand to achieve its economic policy objectives



What are the economic policy objectives of the Commonwealth Government?

Objective	Explanation	Indicators	Comment
Steady, sustained economic growth. Raise material standard of living.	Increase in the capacity of the economy to satisfy the needs and wants of members of the society	Rate of change in real GDP Rate of change in national income (NNI)	As much growth as possible for as long as possible (without causing problems elsewhere in the economy)
Price stability Low inflation, and no deflation.	Little or no sustained, appreciable rise in the general price level	Rate of change in consumer price index (CPI) Change in Implicit price deflator index (IPDI)	RBA target is for 2% to 3% inflation on average over the life of the economic cycle
Full employment or zero cyclical unemployment	A job for everybody that wants to work without causing inflation to accelerate (NAIRU)	Unemployment rate Participation rate Underemployment (labour utilisation) Hours worked	Avoid cyclical unemployment, and reduce structural unemployment. NAIRU is about 5%
Equitable income distribution (Distributive justice)	Need to balance fairness (equity) and efficiency through rewards and incentives	Gini-coefficient Lorenz Curve	Striking the balance is a political matter involving incentives, destroying moral hazard and creating welfare dependency
Environmental sustainability	Sustainable = without causing problems or costs for future generations	Level of GHG in atmosphere Resource depletion Extent of global warming	Need to prevent a 'Tragedy of the Commons' by using emissions trading scheme to price carbon.
Efficient allocation of resources	Avoid 'market failure' and promote productivity	Labour productivity Deadweight loss	Use resources to achieve productive, allocative and dynamic efficiency.

Does the Commonwealth Government have external macroeconomic objectives?

Given the relative openness and global nature of the Australian economy, with more or less free trade, investment and financial flows, the Government does not attempt to manage or influence the level of the current account deficit, exchange rate or level of foreign liabilities. The Commonwealth Government, however, monitors external performance and, from time to time, expresses a view about it.

Does the Reserve Bank of Australia (RBA) have the same policy objectives?

The policy objectives of the RBA were originally set out in *The Reserve Bank Act (1959)*. Since 1996 there has also been 'a common understanding' between the Reserve Bank Governor and the Treasurer (known as the Statement on the Conduct of Monetary Policy) on key aspects of Australia's monetary and central banking policy framework. The RBA aims to for:

- **Stability of the currency:** An inflation target band of 2% to 3% per year over the life of the cycle is the centerpiece of the banking policy framework. Note stability of the currency in this case does not refer to the value of the Australian Dollar on foreign exchange markets.
- **Maintenance of full employment:** Achieving the non-accelerating inflation level of unemployment (or NAIRU)
- **Increasing the economic prosperity and welfare of people of Australia:** Foster economic growth as long as it does not threaten the price stability objective.

Clearly these economic policy objectives coincide with those of the government. At times, however, because the RBA gives priority to the achievement of the inflation target, it may appear that RBA policy and Government policy are not working in complete harmony. The RBA may also act to influence the value of the Australian Dollar in foreign exchange markets e.g. during 2014 it tried to talk down the exchange rate

Student Activity 12.1

1. Produce a scorecard showing the current performance of the Australian economy in five key chosen areas. For each key area: a) Select at least two appropriate performance indicators; b) State the relevant data; c) Explain what this data indicates about Australia's economic performance.

Key area	Performance indicators	Current data	Comment

12.2 WHY DO THE POLICY MAKERS PURSUE THESE ECONOMIC POLICY OBJECTIVES?

Economic Growth	
Definition: Increase in the capacity of the economy to satisfy wants of members.	
Advantages Rise in material living standard (subject to changes in population) More goods and services, more choice Avoids 'relative decline' (not keeping up with other countries) Creates employment (subject to productivity changes) or prevents unemployment from rising (subject to no change in the size of labour force)	Disadvantages May spill-over into demand inflation May lead to skill shortages May lead to structural change and structural unemployment May damage environment May promote inequities (if growth is unbalanced) May lead to more imports May require more foreign investment

Price Stability	
Definition: Little or no sustained, appreciable rise in the general price level	
Advantages Promotes international competitiveness (through lower relative inflation rate) Promotes confidence for households and business Avoids arbitrary redistribution of income Protects real incomes in economy (stable price level) Allows for low nominal interest rates Avoids inefficiencies (e.g. 'menu costs' and 'shoe leather costs')	Disadvantages Danger of slipping into deflation (rising debts, falling profits, no negative real interest rates, postponement of spending) May require reduction in aggregate demand to achieve low inflation (trade off with more unemployment) Allows debts to fall in real terms over time

Full Employment	
Definition: A job for everybody that wants to work and is available for work	
Advantages Avoids economic costs (e.g. opportunity cost of 'lost GDP-gap' production, skills atrophy) Avoids costs to government and taxpayer (tax loss, costs of welfare, extra public and merit goods, 'job programs') Avoids social costs (e.g. higher crime, higher spending on health care) Avoids personal or individual costs (e.g. loss of confidence, loss of job readiness, denial of work ethic, boredom)	Disadvantages May trigger wage-push inflation Moral hazard (guaranteed full employment might make people slack and inefficient) Natural (non-demand related) unemployment hard to fix

Equitable income distribution	
Definition: Balance of efficiency, rewards and incentives with fairness (equity)	
Advantages Fairness or distributive justice Morality More harmonious society	Disadvantages Welfare dependency Moral hazard Lack of reward and incentive

Efficient use of resources	
Definition: Achieve productive efficiency (produce at lowest unit cost possible), allocative efficiency (produce products where cost of production reflects householders' benefit) and dynamic or adaptive efficiency (ability to adjust output to meet changing circumstances).	
Advantages Only finite level of non-renewable resources Reduces rate of environmental damage	Disadvantages May lead to structural change Renewable resources may be relatively expensive in short run

Student Activity 12.2

1. Define the term 'sustained economic growth'.

2. Discuss whether sustained growth of about 3.5% per year would be desirable.

3. Define the term 'price stability'.

4. Discuss whether keeping inflation between 2% to 3% per year is desirable.

5. Define the term 'unemployment'

6. Discuss whether an unemployment rate about 5% would be desirable.

7. Define the term 'distributive justice'

8. Discuss whether a more equal distribution of incomes is desirable.

9. Define or explain the term 'efficient use of resources'.

10. Discuss whether Australia should reduce the amount of electricity produced using relatively cheap fossil fuels.

12.3 CONFLICTING AND COMPLEMENTARY OBJECTIVES

Can all the economic policy objectives be achieved at the same time?

Few countries achieve all their macroeconomic objectives at the same time. The relationship between macroeconomic goals is complex and depends on:

- the time period considered (i.e. short term or long term).
- whether or not aggregate supply is changing as well as aggregate demand.
- whether Keynesian economists or new-classical economists are right.

What objectives clash when it's only aggregate demand that changes?

- Demand-pull inflation and cyclical unemployment (as shown on a simple, short-run Phillips Curve)
- Growth and demand-pull inflation (assuming no increase in capacity)
- Growth and structural unemployment (growth may change the pattern of production or involve more international trade)
- Unbalanced growth between sectors in the economy and equitable incomes (extra income is not spread evenly across the economy)
- Equitable income distribution and growth (lack of reward and incentive)

What objectives are complementary when it is only aggregate demand that changes?

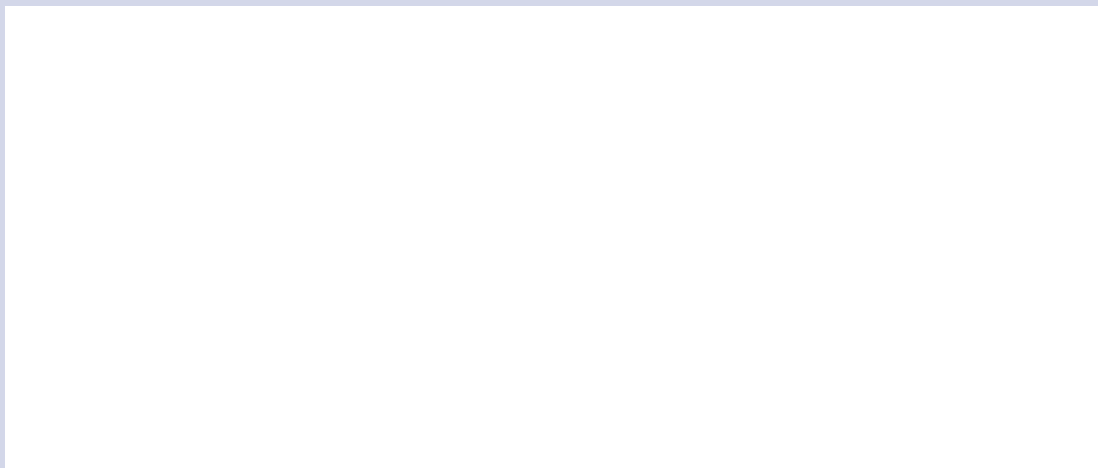
- In the long run, price stability is compatible with all other goals (e.g. international competitiveness hence growth and employment, no distortion of income distribution)
- Full employment and equitable income distribution (mainly due to lower unemployment)
- Growth and lower demand-deficiency unemployment (assuming growth is not linked with a productivity rise and rise in the labour force)

What happens if aggregate supply changes as well as aggregate demand?

All goals become compatible because non-inflationary growth is possible. The macroeconomic objectives are more likely to be achieved in the long run if new-classical economists are right.

Student Activity 12.3

1. Draw an aggregate demand and aggregate supply diagram showing non-inflationary growth.



2. Explain why economic growth may not lead to lower unemployment in the short run.

3. Using an example, describe why economic growth may not lead to a equitable distribution of incomes.

4. Explain why measures to achieve price stability may hit employment in the short run but promote it in the long run.

12.4 ECONOMIC MANAGEMENT

What policies can the policy makers use to achieve these objectives?

Between them, the Government and RBA use three main policies to achieve their economic objectives.

Fiscal Policy (Government)	Alter the balance between government spending and taxation to change the fiscal balance.
Monetary Policy (RBA)	Alter cash rates to influence the level of other interest rates in the economy and hence the level of aggregate demand.
Economic Reform or supply-side measures (Government)	Introduce measures designed to improve efficiency and productivity in separate markets or industries. These involve: Market-orientated reforms: Aim is to allow markets to work more efficiently (e.g. by removing government regulations, reducing tax, ensuring effective competition) Interventionist measures: Provide the infrastructure or framework that helps the economy work efficiently (e.g. transport and communications networks, education and health services)

What mix of policy measures is appropriate?

It depends! The appropriate policy mix depends on several factors including:

- what the managers of the economy are trying to achieve and their time line.
- how the economy is travelling at the time (e.g. is growth too high or too low and is the rate of change gradual or rapid?).
- whether the problems appear to be cyclical, structural, international or domestic.
- whether the economy is capable of fixing itself through self-adjustment.
- the current policy settings and whether or not there is room to make adjustments.

Aren't the goals of economic management are clear?

Yes they are! They have been described in this chapter already, namely:

- steady sustainable economic growth (or recession prevention).
- zero cyclical unemployment and a high participation rate.
- A rate of inflation between 2% and 3% (or deflation prevention).
- equity in income distribution.
- efficient use of resources.

But in practice the goals have to be prioritised because, in the short run they are not all complementary and factors other than economics affect the government's delivery of fiscal policy and supply-side measures. For example, policy decisions will reflect political factors (such as the time of the next election, the degree of public support for the government, the need to compromise with minor parties to get legislation passed by the Senate), environmental factors and social factors.

Don't the managers know how the economy is travelling at present?

There are lots of economic indicators but not many reliable, general leading indicators of economic activity. There are significant time lags involved in recognising economic trends. Estimating potential output or the capacity of the economy is especially difficult. At best it may only be possible to make an educated guess based about the size and rate of change of the output gap at the time economic management decisions have to be made.

So is the key to economic management the size of the output gap?

The output gap is defined as the difference between actual output and potential output. But what is potential output? Is it just trend output, the average or typical performance in the recent past, or is it something more sophisticated based on estimates of what will happen to the quantity and quality of resources and the efficiency of their use?

Does potential output fall when actual output falls?

When aggregate demand falls it is quite likely that aggregate supply will fall as well. Some reasons for this include:

- businesses close (leading to a loss of intellectual property and capital depreciation).
- participation falls, workers emigrate (leading to a loss of labour resources).
- structural unemployment rises (again leading to a loss of labour resources).
- skills atrophy occurs where people lose the ability to use their skills and to maintain work readiness (again leading to a loss of labour resources).

Student Activity 12.4

1. State two reasons why policy makers may not know the size of the economy's output gap.

2. The table shows actual and potential growth rates for an economy over 4 years. Complete the table by estimating the output gap in the economy each year.

Year	1	2	3	4
Actual growth rate	0	2	5	5
Potential growth	3	3	3	3
Output gap				

3. Describe the difference between the actual growth rate, the trend growth rate and the potential growth rate.

12.5 IS IT IMPORTANT TO UNDERSTAND THE CAUSE OF BELOW PAR PERFORMANCE AND USE THIS TO DETERMINE THE POLICY RESPONSE?

There is always a question mark in any recession about the cause of the problem. Is it caused by a lack of aggregate demand (and hence can be controlled by expansionary demand-side fiscal and monetary measures) or a lack of aggregate supply (and hence a need for structural adjustment or supply-side economic reform measures)? So some key questions are:

- Is the problem cyclical or structural?
- Is it caused by international factors beyond the control of the economic managers or by domestic factors?
- Is the problem likely to be temporary or permanent?

Sometimes it is clear the cause is a negative demand shock or an external (or exogenous) supply shock. Exogenous shocks are things that are good or bad for your economy that come from outside. Often the situation is more complex and it is not easy to tell whether inflation is demand-pull or cost-push inflation or whether unemployment is demand-deficiency (or cyclical) or natural (i.e. structural, real wage, frictional, residual). According to economist Tim Harford writing in *The Underground Economist Strikes Back*, (2014) there are situations when 'the economy just sickens and takes to its bed for no apparent reason (e.g. Japan in the second half of the twentieth century). If economic policy were something we understand as well as, say, bridge

building, there wouldn't be such arguments about it. Anybody that thinks running a modern economy is a matter of plain common sense frankly doesn't understand much about running a modern economy'.

To what extent is the economy capable of self-adjustment?

The key issues include:

- Whether costs of production and prices paid by consumers adjust to 'clear' markets. Given in a downturn there should be excess labour, why don't wages fall? If there are empty shops why don't landlords reduce rents? If there are insufficient shoppers why not lower prices?
- Whether exchange rates change to reflect the underlying performance of the economy
- How powerful will fiscal automatic stabilisation be?
- Are producers sufficiently adaptive or dynamic to adjust to new conditions?

Supply-side (new-classical) economists think the economy will adjust because markets are sufficiently competitive and flexible. Demand-siders say costs and prices will not fall enough because of 'sticky prices' or 'nominal price rigidity'. They claim there are four reasons why prices may be 'sticky':

- Fairness: People think it's unfair to take a *nominal* wage cut.
- Consumer reaction: People get upset when they see something they have already purchased is now available at a lower price.
- Menu costs: There are costs for a business when it adjusts the price of their product. Apparently, Coca-Cola didn't change their prices for 70 years after its launch in 1886.
- Lack of competition: In oligopolistic markets price stability is better than competition (according to the Theory of Games and the Prisoners' Dilemma).

Student Activity 12.5

1. Give two examples where the price of resources used in the production process do fall when there is spare capacity (or an output gap).

2. State two reasons for 'nominal price rigidity', that is the failure of prices to fall to clear markets when there is excess supply.

3. Apart from external or exogenous shocks, what can make an economy sick and 'take to its bed'?

4. What options do policy makers have if an economy is heading for recession and possible deflation?

12.6 WHY IS THE CURRENT POLICY STANCE A FACTOR?

If the policy stance is already expansionary the managers will have less scope for policy changes. Cash rates may already be low and the budget may already be in structural deficit. Existing supply-side conditions may make the task of economic reform too big to attempt all at once, needing the government to select specific measures that are targeted at specific problems.

Do the policy measures have undesirable side effects?

In macroeconomics the first or obvious effect of a policy change may not be the only effect.

- **Fiscal policy side effects:** As will be explained in the next chapter an expansionary fiscal policy involving increases in government spending and tax cuts may turn out to be less expansionary than expected as a result of problems created by the rise in government or sovereign debt (e.g. the interest burden imposed on future generations, increased costs in servicing and renewing the debt in any future crisis, and a downgrading of the credit rating) and by crowding out (i.e. reduced spending elsewhere in the economy due to resource, financial and exchange rate crowding out).
- **Monetary policy side effects:** Reductions in the cash rate may lead to a bigger than desired fall in exchange rate which will be inflationary, and a house price bubble fueled by investors' ability to get cheap loans
- **Supply-side policy side effects:** Structural change may, in the short run lead to loss of employment, wage restraint, an increase in prices in privatised electricity, water and gas utilities and social problems connected with reductions in pensions, changes to the pension age and with welfare reforms.

How will monetary policy be conducted?

In stable times	In unstable times
Use inflation target as framework for making cash rate changes. Monetary policy will have a more active demand-management role than fiscal policy. Changes in cash rate will be incremental (probably in 0.25% steps and will anticipate changes in the economy rather than react to them).	Cash rates will be set at an accommodative or expansionary level. Forward guidance will be given that rates will stay low until economy recovers Wait for economy to respond (expect a long effect lag) Deflation rather than inflation will become an issue More active demand-side role given to fiscal policy Possible consideration of 'Quantitative easing' (increasing funds in banks by buying back government debt held by the private sector) or a zero interest rate policy (ZIRP) or even negative interest rates

How will fiscal policy be conducted?

In stable times	In unstable times
Operate a passive fiscal policy in line with a medium term fiscal framework of: Structural neutrality (or small surplus) Allow for a cyclical deficit or surplus as a result of automatic fiscal stabilisation Set a target ratio for government spending / GDP Set a target ratio for government debt / GDP Leave active demand-management to monetary policy.	Operate an active expansionary fiscal policy with a structural deficit on top of the cyclical deficit Allow ratio for government spending / GDP to rise Allow ratio of government debt / GDP to rise (especially because money can be borrowed by the government at attractive interest rates) Plan exit strategy to return to structural balance when economy recovers Accept that monetary policy will have limited expansionary effect in a recession

How will economic reform supply-side policy be conducted?

In stable times	In unstable times
Provide for a steady, sustainable increase in the capacity or potential level of output in the economy. Accept that effect time lag will be long	Accept that economic reform is not a short-term solution but avoid taking measures that will reduce capacity in the future (e.g. take protectionist measures, or increase welfare benefits). Prioritise measures that impact directly on aggregate demand (e.g. public investment in transport infrastructure)

So there is not a simple one-stop macroeconomic policy solution?

The policy mix is likely to be complex. Silver bullet solutions such as a public spending stimulus or a cut in direct taxes, or the elimination of red tape or protectionism for manufacturing often recommended by spokespersons of interest groups are unlikely to work.

Please will you recap the main difficulties faced by policy makers

Macro-management is not straightforward. In addition to the clashes between objectives outlined above, problems may arise from:

- **Lack of up-to-date and accurate data:** Much of the data available to macro-managers concerns with what has already happened in the economy (lagging indicators) or the data may be distorted by some special circumstances
- **External shocks:** Things happen that are beyond the government's control (e.g. floods and droughts, changes in economies overseas)
- **Unpredictable responses to policy changes:** The context in which economic management is taking place is always changing. For example, the RBA does not know exactly how people will respond to an interest rate cut – will they spend their extra disposable income or save it and reduce debt?
- **Time lags:** There are time lags that slow down the management process. There are so-called inside lags (recognition and implementation lags) and outside lags (effect or impact lags).

Inside lags	Recognition lag	Time taken to recognise that the economy is off course.
	Decision or implementation lag	Time taken to decide on and implement an appropriate policy change
Outside lag	Effect or impact lag	Time taken for policy change to affect the path of the economy

- **Differences between economists:** Keynesian economists are happy for the government to become involved in demand management and in market regulation, but neo-classical economists (e.g. supporters of Hayek and Friedman) believe that active intervention may actually damage the economy (e.g. cause a build up of debt) and that markets self-adjust and most problems solve themselves.
- **Differences in political objectives:** Given that, especially in the short-run, policy objectives may clash, some politicians stress equity and social equality while others place a priority on growth and efficiency.
- **Separation of powers (executive and legislature):** Given close elections, hung parliaments and coalition governments, the government (executive) is not always in a position to enact (legislate) the economic changes it wishes to make.

Student Activity 12.6

1. In broad terms, describe the key policy measures that are used to manage the performance of the economy.

2. Explain why time lags make management of the economy difficult. What time lags do economic managers have to contend with?

3. Explain three other problems the government and/or RBA face in attempting to manage Australia's economic performance.

SO YOU NOW THINK YOU UNDERSTAND ECONOMIC POLICY OBJECTIVES

Four roles of government 1 2 3 4	Definition of equitable income distribution Two advantages of equitable incomes 1 2 Two problems with equitable incomes 1 2
Five policy objectives 1 2 3 4 5	When AD changes which objectives clash or are in conflict? 1 2 3
Definition of Growth Three advantages of growth 1 2 3	Diagram of simple Phillips Curve
Three problems with growth 1 2 3	When AD changes which objectives are complementary? 1 2 3
Definition of 'full employment' Three advantages of full employment 1 2 3	Diagram showing non-inflationary growth (importance of shift in AS)
Two problems with full employment 1 2	Three policy areas 1 2 3
Definition of 'price stability' Three advantages of price stability 1 2 3	Two types of supply-side policies 1 2
Three issues with price stability 1 2 3	Four problems of economic management 1 2 3 4 Three types of time lag 1 2 3

REALITY CHECK

Chapter 12: Economic Policy Objectives

1. 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 equitable income distribution.
 - (d) Achieve sustained economic growth.

2. Why might the Reserve Bank and Government use expansionary monetary and fiscal policy measures?
 - (a) To ensure sufficient public goods and merit goods are available for all Australians.
 - (b) To reduce the fluctuations in economic activity associated with the economic cycle.
 - (c) To ensure the international performance of the economy stays in balance.
 - (d) To ensure productivity does not fall during the economic cycle.

3. Which of the following are 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.

4. If, in an economy, economic indicators show i) a fall in concrete production, ii) a fall in the volume of imports, and iii) a rise in cyclical unemployment, the economy is most likely to have:
 - (a) strong economic growth.
 - (b) a falling rate of growth.
 - (c) equilibrium or 'trend growth'.
 - (d) rising economic growth.

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

6.

	CPI	Real GDP (\$b)	Level of unemployment	Labour force
Start of 2015	200	1,500	750,000	12m
Start of 2016	210	1,600	750,000	11m

During 2016:

- (a) inflation was 10%, growth was 10% and the unemployment rate was 6.25%.
- (b) inflation was 5%, growth was 6.7% and the unemployment rate was stable at 7.5%.
- (c) inflation was 10%, growth was 6.7% and unemployment rose by 5%.
- (d) inflation was 5%, growth was 6.7% and unemployment rose by 0.57%.

7. Which of the following is normally considered to be the biggest *economic* cost of unemployment?
- (a) Extra government spending on public and merit services such as health and education.
 - (b) The loss of self-esteem amongst the unemployed.
 - (c) The opportunity cost associated with the GDP or output gap.
 - (d) The financial cost to the government of reduced tax and extra welfare.
8. 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) People who leave the workforce because they become discouraged about finding work are classified as being the 'disguised unemployed'
9. Higher economic growth and lower unemployment are usually compatible objectives because:
- (a) Economic growth increases demand in both factor and product markets.
 - (b) Economic growth improves welfare.
 - (c) Economic growth leads to structural change.
 - (d) Economic growth encourages foreign investment.
10. According to Keynesian economists, the extent to which a rise in aggregate demand affects inflation depends on:
- (a) the level of interest rates.
 - (b) the amount of excess capacity in the economy.
 - (c) changes in the current account balance.
 - (d) the level of the natural rate of unemployment.

Question (a) What are the policy objectives of the government and Reserve Bank? [8 marks] (b) Explain three problems that policy makers have to overcome to achieve these policy objectives. [12 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

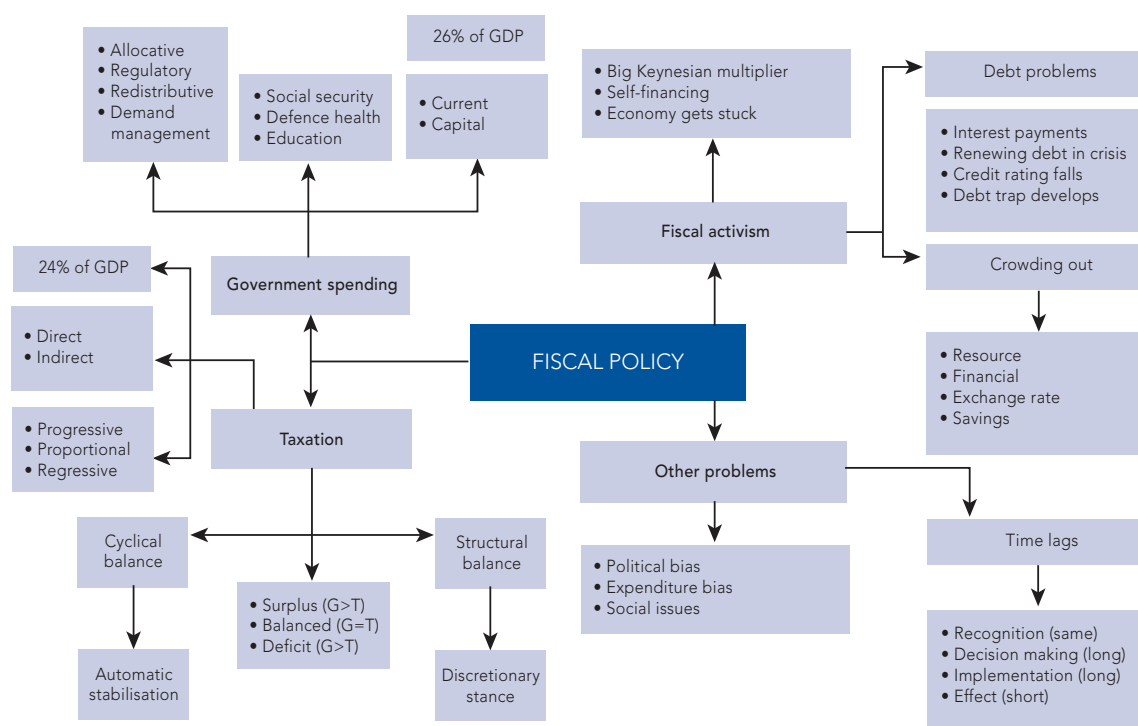


- ☐ The concept of fiscal policy.
- ☐ The components of government revenue and expenditure in the budget.
- ☐ The different budget outcomes, i.e. balanced, surplus and deficit budgets.
- ☐ Reasons that account for differences between planned and actual budget outcomes.
- ☐ Methods of financing a budget deficit and the uses of a budget surplus.
- ☐ The distinction between automatic fiscal stabilisers and discretionary fiscal policy.
- ☐ The distinction between budget outcomes associated with automatic fiscal stabilisers and budget outcomes associated with discretionary fiscal policy.
- ☐ The concepts of expansionary, contractionary and neutral fiscal policy stances.
- ☐ The impact of different fiscal policy stances on the level of economic activity.
- ☐ Strengths and weaknesses of fiscal policy.
- ☐ Contemporary (the last three years) fiscal policy stances in Australia.

OVERVIEW – 10 STEPS TO UNDERSTANDING 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 to achieve macroeconomic objectives.
2	The Budget Balance is the difference between government spending and government revenue (taxation, dividends, fees and fines) during the accounting period between 1st July and 30th June each year.
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.
4	There are two elements within 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, in a boom the government automatically collects more tax revenue (e.g. from company tax, income tax and GST) and automatically spends less on social security (e.g. unemployment benefits) so the cyclical balance rises. This, in turn, increases net leakages from the economy and helps control the rise in aggregate demand.
6	Discretionary fiscal policy is controversial. Keynesian economists believe in 'fiscal activism' to deal with any shortage or surplus in aggregate demand. For example, in 2008 the government made up for a drop in consumption, planned investment and net exports through a fiscal stimulus package involving additional government spending and reduced taxation. The case for Keynesian 'demand-side' intervention is based on (a) the economy will not self-adjust because resource markets are 'sticky', (b) a positive spending multiplier effect and (c) the absence of negative side effects (e.g. issues with sovereign debt)
7	New-classical economists believe (a) the effective multiplier is small and may even be negative when side effects such as crowding out are taken into account, (b) sovereign debt does long-term damage to the economy and (c) ultimately supply-side measures determine changes in real GDP rather than demand-side measures. Hence, structural neutrality (a balanced budget over the life of the cycle) is appropriate. If debt has built up, a structural surplus will be necessary to pay off the debt.
8	Supply-siders (or 'dries') believe that fiscal policy should concentrate on the effect that the level and composition of government spending and taxation has on economic efficiency. They tend to believe in 'small government' and tax rates that provide incentives and rewards.
9	Fiscal policy has different strengths and weakness compared to those of monetary policy.
10	During the mid 2000's the Howard Liberal-National Coalition Government ran a series of surplus budgets that eliminated sovereign debt. In response to the GFC, the Rudd/Gillard/Rudd Labor Government quickly moved the budget into deficit ('go early, go hard, go households') and also introduced tax reform that emphasised 'equity' rather than economic efficiency. The Abbott Coalition Government has attempted 'fiscal repair' but found it difficult to get spending cuts (savings) through the parliament.

Fiscal Policy mind map



13.1 BASIC CONCEPTS

Why does the government intervene in the economy?

The purpose of the government's fiscal intervention in the economy is to:

- **Redistribute incomes:** The government uses the tax and transfer system to produce an income redistribution than is fairer than that produced in a free market economy.
- **Prevent or fix up market failure:** The government regulates markets (e.g. to reduce monopoly power, to control negative externalities, to ration the use of common property resources, and control the use of demerit goods) and allocates resources to the production of public and merit goods and services (e.g. infrastructure, education, health and defence).
- **Manage aggregate demand:** The government actively manages the level of aggregate demand in an attempt to achieve its macroeconomic objectives.

What is fiscal policy?

Fiscal Policy uses changes in the level of government spending and taxation to directly and indirectly manage the level of aggregate demand to achieve macroeconomic objectives. Hence, fiscal policy is a demand-side, counter-cyclical policy.

What is the Budget?

- The Budget is a record of government spending and government revenue (taxation, dividends, fees and fines) during the accounting period between 1st July and 30th June each year.
- The Budget Balance is the difference between the level of government spending and revenue during the accounting period.
- The Budget also includes an assessment of economic performance and any factors that are affecting it.

There are a number of ways of measuring the budget's bottom line, aren't there?

The budget balance can be reported in 'headline terms' (total revenue from all sources minus total expenditure) or in 'underlying terms' (the headline balance but with the sale or purchase of assets removed from revenue).

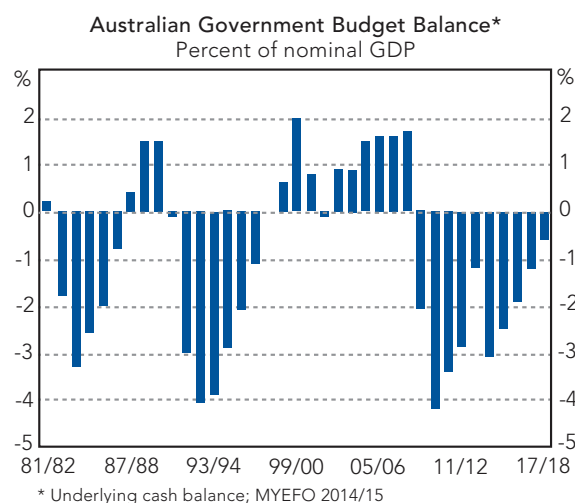
Both the headline and underlying balance can be measured in 'cash balance terms' (based on revenue and spending flows within the financial year) or in 'operating result terms' (based on accrual accounting of specific projects and programs)

The Treasury's preferred measure is the 'underlying cash balance' (asset sales removed, cash flow basis) and is known as the 'budget balance'

What is the difference between a deficit, surplus or balanced budget?

The budget outcome or balance is a measure of the extent to which the government is adding to or using national savings (or building up or reducing the level of sovereign debt). There are three possible budget outcomes:

- **Budget surplus:** Government income is greater than government expenditure.
- **Balanced budget:** Government income equals government expenditure.
- **Budget deficit:** Government income is less than government expenditure.



Source: Australian Treasury

How does the Government finance a budget deficit?

There are two main ways a government can finance a 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.
- **Borrow from the Reserve Bank:** Essentially the Reserve Bank 'prints money' or increases its holdings of Government securities.

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 13.1

1. What is fiscal policy? What are the main policy variables of fiscal policy?

2. What is aggregate demand? What are the component parts of aggregate demand? Which of the components are directly and indirectly affected by fiscal policy?

Direct impact

Indirect impact

3. In calculations of the budget balance, what is the difference between:

(a) underlying and headline measures?

(b) cash flow and operating result (accrual) measures?

4. Using the chart showing Australia's budget balance, identify the years between 2004-05 and 2014-15 that the Australian Government has had a budget surplus.

5. 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			

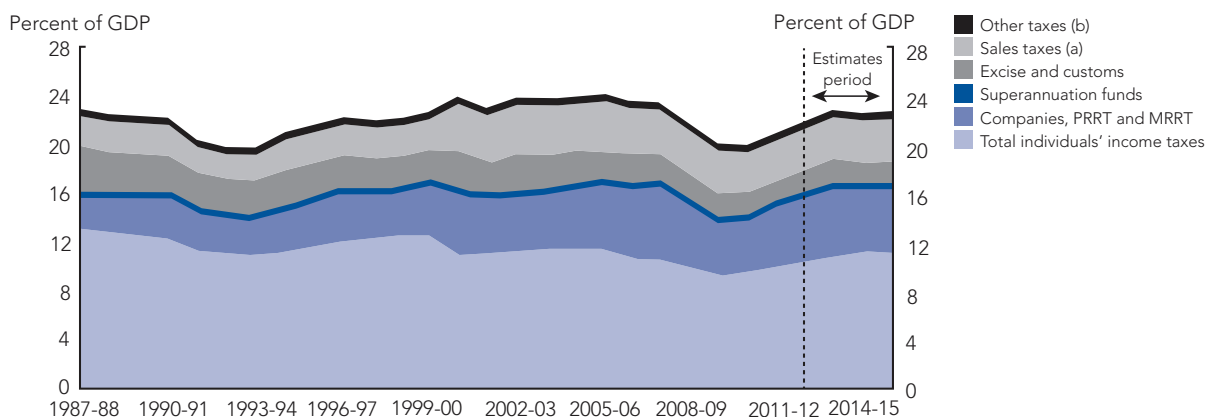
6. What, typically happens to government (sovereign) debt when the budget is in deficit?

13.2 GOVERNMENT REVENUE AND EXPENDITURE

Where does the government's revenue come from?

- **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.
- **Profits:** The government owns some businesses (e.g. the Australian Submarine Corporation and the Reserve Bank of Australia). If they earn a profit they create revenue for the government.
- **Sale of assets:** When government businesses or assets are sold to buyers in the private sector the government receives money (e.g. from the privatisation of Medibank)
- **Fees and fines:** Some money is collected from fees and fines (e.g. from the courts).

The majority of the government revenue comes from direct and indirect taxation.



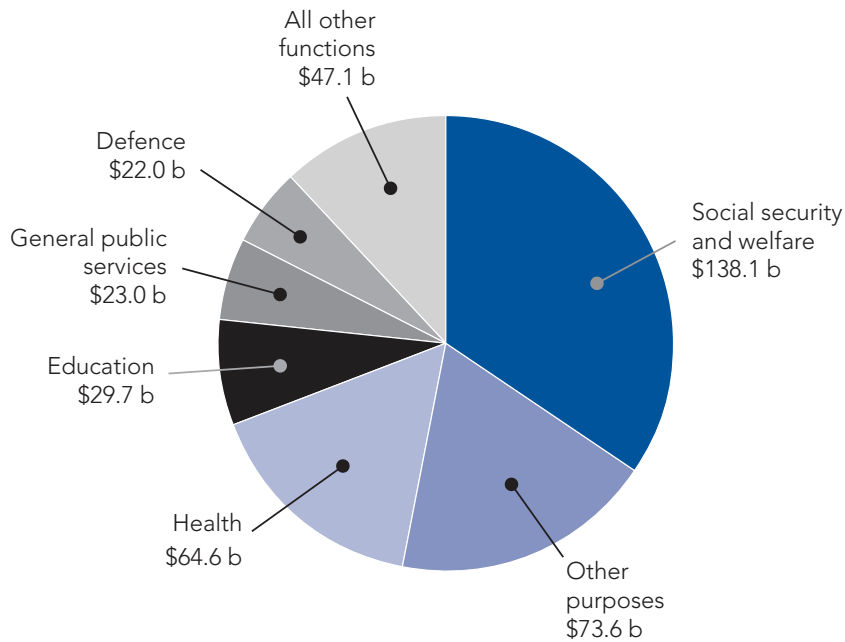
Source: Australian Treasury

On what does the Government spend its money?

Government spending can be classified as:

- Current expenditure: Day-to-day spending such as wages of public servants
- Capital expenditure: On buildings and infrastructure such as hospitals, schools, roads and ports
- Transfers: On pensions, welfare and social security

The pie chart shows the biggest categories of spending (ignoring general government services) are social security and welfare (about 35%), defence (12%), health (9%) and education (9%).



Student Activity 13.2

1. What is the difference between direct and indirect tax? Give examples of direct and indirect taxes.

2. Distinguish between current government expenditure, capital government expenditure and transfers. Give examples of each type.

- Use the data provided in the charts to identify the main sources of government revenue and areas of government expenditure.

13.3 WHAT IS THE DIFFERENCE BETWEEN THE CYCLICAL AND THE STRUCTURAL BALANCE?

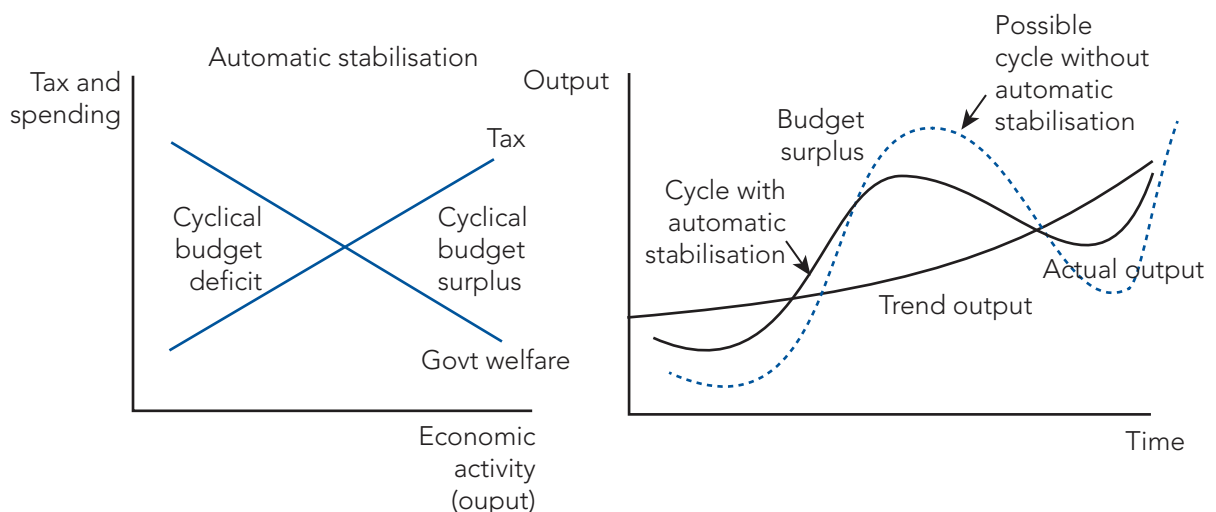
There are two parts in the overall budget balance.

- Cyclical balance:** This is the balance between government spending and taxation resulting from changes in the level of real GDP or income. These changes happen automatically.
- Structural balance:** This is the balance between allocative, regulatory or redistributive government spending and taxation. The balance is the result of deliberate or discretionary decision making.

How do changes in the cyclical balance automatically help 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 and is accepted by both Keynesian and neo-classical economists.

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



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. degree of government regulation), moral or ethical considerations (e.g. the level of welfare payments), security matters (e.g. border security and defence commitments), demographic changes (e.g. the ageing population), and economic considerations (e.g. need for infrastructure spending).

What is discretionary fiscal policy?

A change in the budget balance is discretionary fiscal policy if it is caused directly by decisions about structural government spending and tax rates, as opposed to changes in the level of income.

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

So there is a two-way relationship between the fiscal balance and the economy?

- Yes, a change in the structural budget balance affects the level of economic activity and the level of economic activity affects the cyclical budget balance.
- Changes in the structural (or discretionary) budget balance increase or decrease the level of aggregate demand when the economic cycle is 'stuck' above or below the economy's potential growth rate.
- Changes in the level of economic activity affect the cyclical budget balance
- Cyclical influences provide a degree of 'automatic stabilisation' for the economy over the life of the economic cycle.

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 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 in the previous time period the impact on the economy will be neither expansionary or 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.

What does the term 'structural neutrality' mean?

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 13.3

1. Explain the difference between the cyclical and structural component of the budget balance.

2. Explain the difference between automatic fiscal stabilisation and discretionary fiscal policy.

3. Complete the following table.

	Cause of an increase in the budget deficit	Description of increase in budget deficit (Automatic or Discretionary?)
a)	Lower commodity prices lead to a fall in company tax paid by mining companies	
b)	Government reduces company tax rates to make Australian rates internationally competitive	
c)	Rise in government spending due to spending on border protection and anti-terrorist measures.	
d)	Fall in income tax payments as a result of higher unemployment and low wages growth	

4. The concepts of expansionary, contractionary and neutral fiscal policy stances.

Year	Automatic stabilisation (Cyclical balance) (\$b)	Discretionary policy (Structural balance) (\$b)	Overall budget balance (\$b)	Fiscal stance (Expansionary, Contractionary or neutral?)
1	-10	-10	-20	-
2	-6	-20	-26	
3	-2	-10	-12	
4	+5	+5	0	
5	0	+5	+5	

5. Explain the meaning of the term 'structural neutrality'? Should government's always follow a policy of structural neutrality?

13.4 FISCAL ACTIVISM

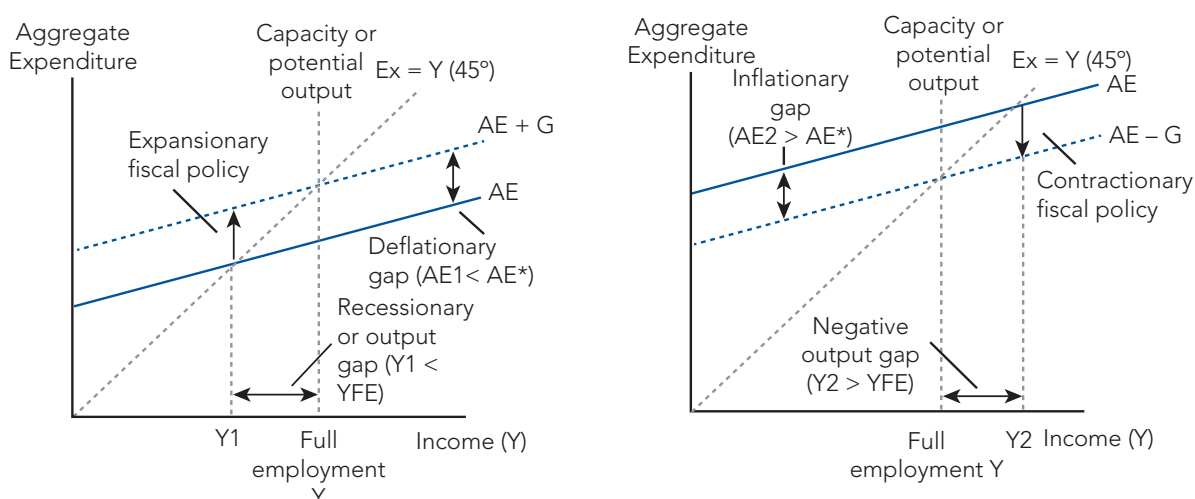
What fiscal stance would Keynesian economists recommend for a slump?

Keynesian 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, 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. This is explained in the section on balanced budget multipliers later in this chapter. The point of the fiscal stimulus is to:

- provide a net injection into the economy.
- set off a multiplier process.

Ideally the combined effect of the stimulus and multiplier will close the deflationary gap (the shortfall in aggregate expenditure) and hence the output or deflationary gap (the difference between actual real GDP and the full employment level of real GDP). This is shown in the left hand pane of the diagram below.



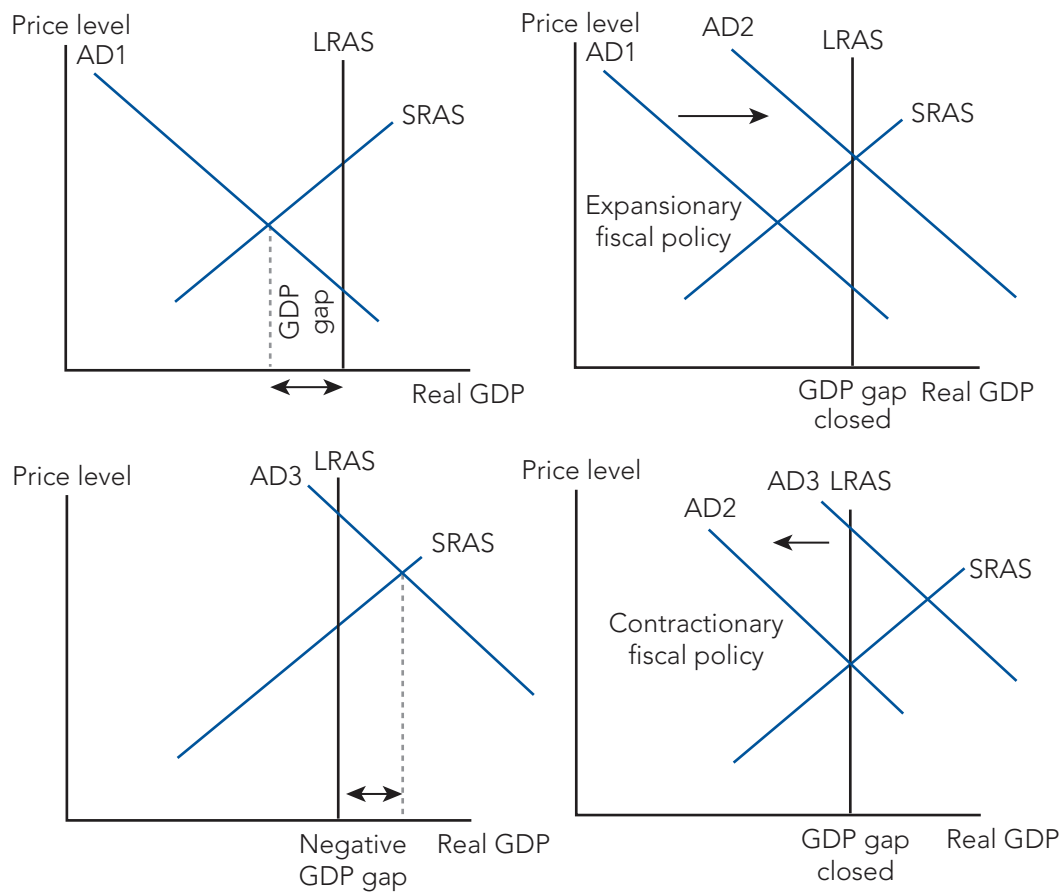
What fiscal stance would Keynesian economists recommend for a boom?

Keynesian economists support a contractionary fiscal stance when the economy is in a boom. 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 into the economy.
- 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). This is shown in the right hand pane of the diagram on the previous page.

The intended impact of fiscal stimulus can, of course, be shown using aggregate demand and aggregate supply diagrams.



Student Activity 13.4

1. Define the following terms.

(a) Deflationary gap

(b) Recessionary or output gap

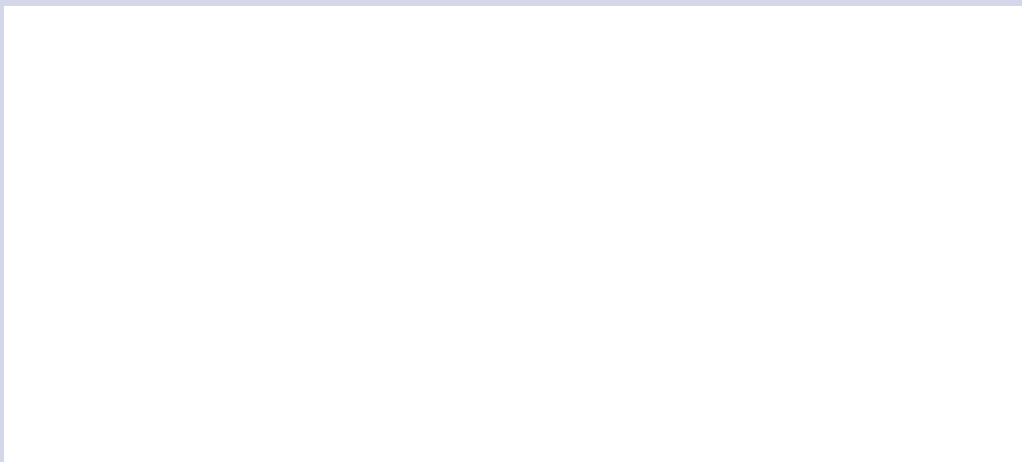
(c) Inflationary gap

(d) Negative output gap

2. Define the term expansionary fiscal policy. According to a Keynesian economist, at what stage of the economic cycle would it be appropriate to have an expansionary fiscal policy? Draw an AD/AS diagram to show the Keynesian impact of an expansionary fiscal policy.



3. Define the term contractionary fiscal policy. At what stage of the economic cycle would it be appropriate to have a contractionary fiscal policy? Draw a Keynesian Cross ($Ex = Y$) diagram to show the Keynesian impact of a contractionary fiscal policy.



13.5 WHY DO KEYNESIAN ECONOMISTS SUPPORT FISCAL ACTIVISM?

Keynesian economists believe in ‘fiscal activism’ to deal with any shortage or surplus aggregate demand. The case for Keynesian ‘demand-side’ intervention is based on three things:

- The economy will not self-adjust (resource markets, especially the labour market’ are ‘sticky’).
- A relatively strong positive government spending multiplier effect.
- The absence of negative side effects of fiscal stimulus (e.g. rising debt and crowding out).

Remind me about the Keynesian government spending multiplier, please

The Keynesian 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 depends on the slope of the aggregate expenditure line (which in turn depends on the slope of the consumption function or marginal propensity to consume).

$$k = \frac{1}{1 - mpc} \text{ or } \frac{1}{mps}$$

$$k = \frac{1}{1 - (mps + mpm + mpt)}$$

$$k = \frac{\text{change in real GDP}}{\text{change in G}}$$

If the size of the multiplier effect is big enough, it is possible that fiscal stimulus programs will 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 ‘pays for’ the stimulus.

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 government spending changes. Direct tax changes change disposable income. However, not all income is spent on consumption, so the change in spending is less than the tax cut. For example, assuming the marginal propensity to consume is 0.6 a \$10b direct tax cut will increase disposable income by \$10b but only increase consumption by \$6b (\$10b × 0.6). The multiplier (k) is still 2.5 (1 / (1-mpc) or 1/(1- 0.6)) so the final change in income is \$15b (\$6b × 2.5).

Cut in direct tax (say \$10 b)	Disposable income rises by \$10 b	Consumption rise limited by MPC (e.g. 0.6)	Real GDP rises by \$6 b × 2.5 = \$1.5 b

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!

So the effect of an equal change in government spending and direct tax isn’t neutral?

Correct! Simultaneous, equal changes in government spending and direct tax don’t cancel each other out. The government spending multiplier coefficient is always 1 bigger than the taxation multiplier coefficient so the overall balance 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 or 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.

Can you work through an example to convince me the balanced budget multiplier is always 1?

Assume $MPC = 0.75$. Therefore, government spending multiplier coefficient = $4 (1 / (1 - 0.75))$

Effect on real GDP of \$5b cut in government spending = \$20b ($\$5b \times 4$)

Effect on consumption of a \$5b cut in direct taxation = \$3.75b ($\$5 \times 0.75$)

Effect on real GDP of \$3.75b cut in consumption = \$15b ($\$3.75b \times 4$)

Overall impact of \$5b cut in government spending and direct tax = \$5b ($\$20b - \$15b$)

So when $MPC = 0.75$, the government spending coefficient is 4, the taxation multiplier is 3, therefore the balanced budget multiplier is 1. There may, of course, be additional dynamic changes in the economy as a result of the fall in government intervention in the economy e.g. as a result of changing incentives, rewards and efficiency.

Is this significant?

It can be! The government needs to plan any stimulus program carefully to get the desired results. Some right wing politicians (or 'dries' such as Tea Party Republicans in the US) believe the economy will perform better if the level of government intervention is reduced, i.e. if there are tax cuts and government spending cuts. The concept of a balanced budget multiplier suggests that cutting the level of government intervention is deflationary. However, the dries believe any deflationary impact will be offset by a dynamic lift in productivity and efficiency.

Student Activity 13.5

1. On what three key assumptions is the case for fiscal activism or Keynesian fiscal intervention to manage short-term aggregate demand, based?

2. 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	Increase government spending by \$8b	
Industry	Increase government spending by \$20b	
Environment	Increase tax by \$13.33b	

3. In an economy the marginal propensity for leakages is 0.7. The government raises direct tax by \$10b and, at the same time, raises government spending by \$10b. What impact will this have on the economy?

4. In an economy the marginal propensity for leakages is 0.658. The government reduces direct tax by \$13.5b and simultaneously cuts government spending by \$13.5b. What impact will this have on the economy?

5. In all situations, what is the value of the balanced budget multiplier? Why is this so?

6. In what circumstances could a rise in government spending without a rise in taxation be self-financing?

13.6 CRITICISMS OF EXPANSIONARY FISCAL ACTIVISM

Why don't all economists support expansionary fiscal activism?

There are five main criticisms of Keynesian style fiscal stimulus measures:

- Crowding out (resource, financial, and net export).
- Adjustments to household savings.
- Sovereign debt issues.
- The expansionary bias of politicians.
- Self-adjustment processes in the economy.

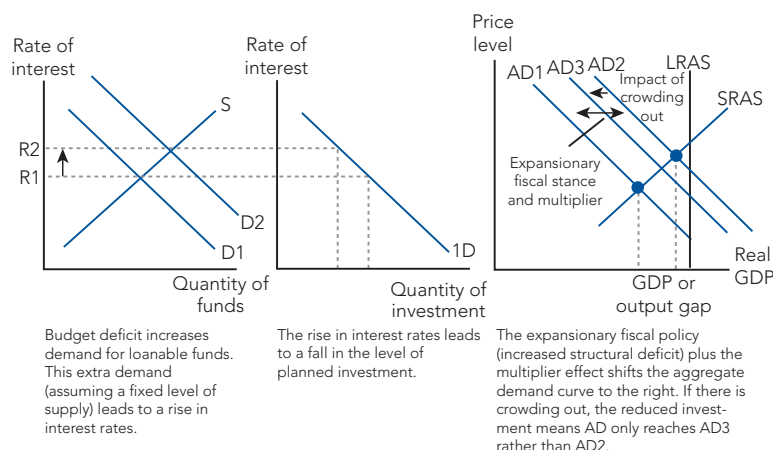
What is crowding out?

One possible side effect of expansionary fiscal policy is so-called 'crowding out'. There are different types of 'crowding out'.

- **Resource crowding out:** This happens if government spending replaces planned investment spending that would have taken place anyway in the private sector. For example, Australia's national broadband network (NBN) is currently being developed by the Government even though it may well have been financed by the private sector had the

Government not done so. There is no extra injection into the circular, just a switch from a private sector injection to a government sector injection. However, if the private sector uses resources more productively (efficiently) and generally adds more value than the public sector, government spending actually weakens the economy by shifting SRAS upwards and LRAS to the left.

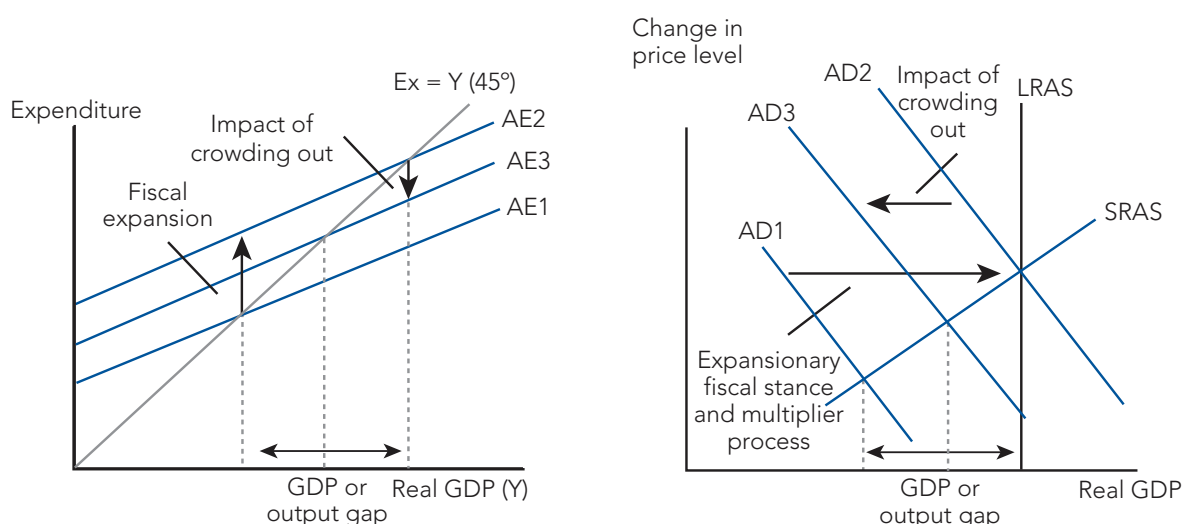
- **Financial crowding out:** Fiscal stimulus leads to government borrowing. Government borrowing adds to the demand for savings and leads to a rise in interest rates. Higher interest rates, in turn, reduce the level of planned investment. This offsets some of the effect of the fiscal stimulus on aggregate demand.



- **Net-export crowding out:** The rise in interest rates caused by financial crowding out raises the exchange rate 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

Can the effect of crowding out be shown on economic models?

The fiscal stimulus does not succeed in closing the GDP or output gap because some of the government's injection into the economy is offset by a fall in planned investment and net exports.



Why do households increase their savings when the government reduces their saving?

The idea is that households increase their saving when the government runs a budget deficit because they worry that the government has lost control of their finances and, in the future, taxes will have to rise again to pay off the government's debt. This is called Ricardian Equivalence. This view is supported by:

- **Income Life cycle hypothesis:** Consumers aim to smooth their consumption over the course of their life. Thus if consumers anticipate a rise in taxes in the future they will save their 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.

Why else is an increase in government debt a problem?

Persistent structural deficits lead to a rise in sovereign (or government) debt. The rise in sovereign debt may lead to:

- **Fall in the credit rating:** A fall in the country's credit rating causes an increase in the future cost of borrowing and a reduction in the level of planned investment.
- **A debt trap:** Debt means interest payments. Interest payments mean extra government spending which adds to the debt. The payments may flow overseas if it is financed by foreign investment.
- **Opportunity cost:** Servicing the debt cut reduces the money the government can spend elsewhere in the economy, e.g. on schools and hospitals.
- **Vulnerability in a crisis:** In times of crisis it might be difficult to rollover the debt.

Why is the expansionary bias of politicians a problem?

Politicians prefer to spend money 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 if there are more budget deficits than surpluses.

If resource markets clear, the economy will self-adjust, won't it?

Yes! New-classical economists believe that resource markets will react to a GDP or output gap, causing a shift in short-run aggregate supply (SRAS) and making active fiscal policy unnecessary.

Can anything else go wrong with fiscal policy?

Time lags are also a problem. Fiscal policy has long inside lags including:

- **Recognition lags:** Recognition time lags are detection, data, observation and 'wait and see' time lags. They refer to the time taken to notice undesirable 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 the Senate these lags have been very long for the current government.
- **Outside lags:** May be relatively short with some forms of government spending.
- **Effect lags:** Effect or impact lags refer to the time taken before changes affect the economy. In general, changes to government spending work faster than tax changes.

Is this why some governments prefer austerity to fiscal activism?

In economics, 'austerity' describes policies used by governments to reduce budget deficits during adverse economic conditions. These policies may include spending cuts, tax increases, or a mixture of the two. The aim of 'government austerity' is to:

- Avoid a build-up of government or sovereign debt (or to reduce it).
- Save on interest payments and avoid the opportunity cost of the interest payments.
- Achieve 'crowding-in' (private sector investment replacing public sector investment, a fall in interest rates, a fall in the exchange rate and reduced saving by households).
- Convince electors that the government is able to 'look after the books' in a responsible manner.

- 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 and Germany. The International Monetary Fund also imposes austerity programs on countries that need their funds (e.g. Greece).

Has Australia gone for fiscal activism or austerity?

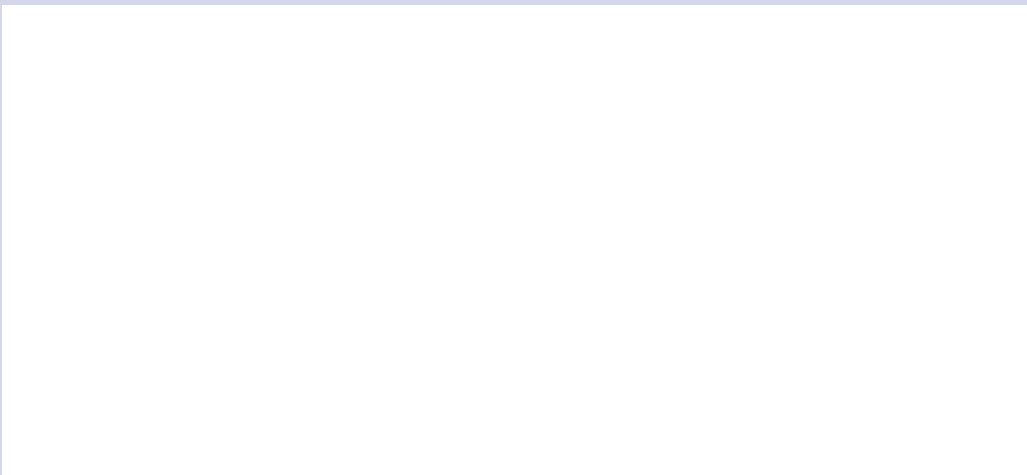
A bit of both really! During the GFC the Rudd/Gillard/Rudd Labour government budgeted for a structural deficit following advice to ‘go early, go hard, and go households’ with its spending stimulus. Although Australia’s government debt has remained relatively low, both Labor and Coalition governments have been keen to return the budget to surplus as soon as possible. The return to surplus, however, has been delayed by factors such as:

- The drop in tax revenue caused by a slowdown in rate of economic growth in China, the fall in commodity prices and in the terms of trade.
- Problems in getting the Senate to pass their ‘savings’ measures.
- Concern about the ‘below trend’ growth rate in Australia.
- The short-run damage to the economy caused by ‘mindless austerity’.

Student Activity 13.6

1. What is resource crowding out? Give an example of government spending that (probably) has 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?

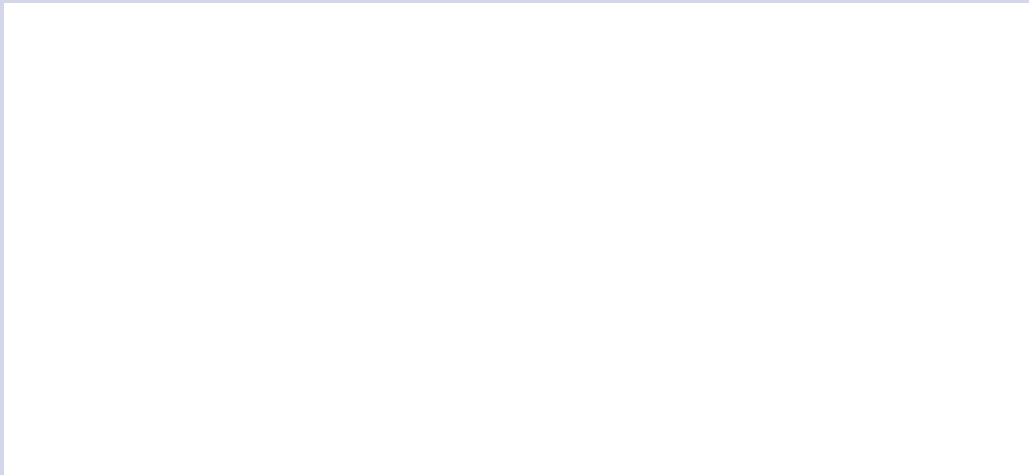
5. Describe three problems associated with a rise in government debt.

6. 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?

7. Explain why politicians might have ‘an expansionary bias’ when it comes to fiscal policy? Why might this bias cause problems?

8. What is fiscal austerity? Explain why, austerity may be the preferred fiscal option even when growth is ‘below trend’.

9. 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.



10. Decide whether the following are strengths or weaknesses of fiscal policy.

Feature	Fiscal policy strength or weakness?
Built-in automatic stabilisation	
Long inside lag	
Short outside lag	
Political neutrality	
Effect dampened by 'crowding out'	
Flexibility to treat sectors differently	
Direct	
Can target variety of groups or problems	
Complexity	

SO YOU NOW THINK YOU UNDERSTAND FISCAL POLICY

Two policy instruments in fiscal policy 1 2	Formula for government spending multiplier
Three possible budget outcomes 1 2 3	Why taxation multiplier is smaller 1 2
Difference between headline and underlying	Appropriate Keynesian fiscal policy for: Boom Slump
Cash flow and 'operating result'	Five criticisms of fiscal activism 1 2 3 4 5
Two ways of financing a deficit 1 2	Three types of crowding-out 1 2 3
Three things to do with a surplus 1 2 3	Four potential problems with government (or sovereign) debt 1 2 3 4
Five main taxes 1 2 3 4 5	Three time lags linked to fiscal policy 1 2 3
Three issues with price stability 1 2 3	Why austerity might be good even in a slump 1 2 3
Five main areas of government spending 1 2 3 4 5	Problems of austerity in a slump 1 2
Cause of cyclical balance Cause of structural balance	
Three types of budget stance 1 2 3	

REALITY CHECK

Chapter 13: Fiscal Policy

1. The fiscal policy stance of having 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 for small businesses.
 - (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) It includes a rise in social security benefit 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 by the amount of the budget deficits.

6. Which of the following is NOT an explanation of Australia's budget deficits from 2008-09 to 2015-16?
 - (a) Fiscal stimulus was needed to counter the downturn after the Global Financial Crisis.
 - (b) A fall in the terms of trade has reduced income tax and company tax revenue.
 - (c) A fall in Chinese growth rates have caused an increase in foreign investment in Australia.
 - (d) Without structural reform, self-adjustment or automatic stabilisation would have been insufficient to restore trend growth.

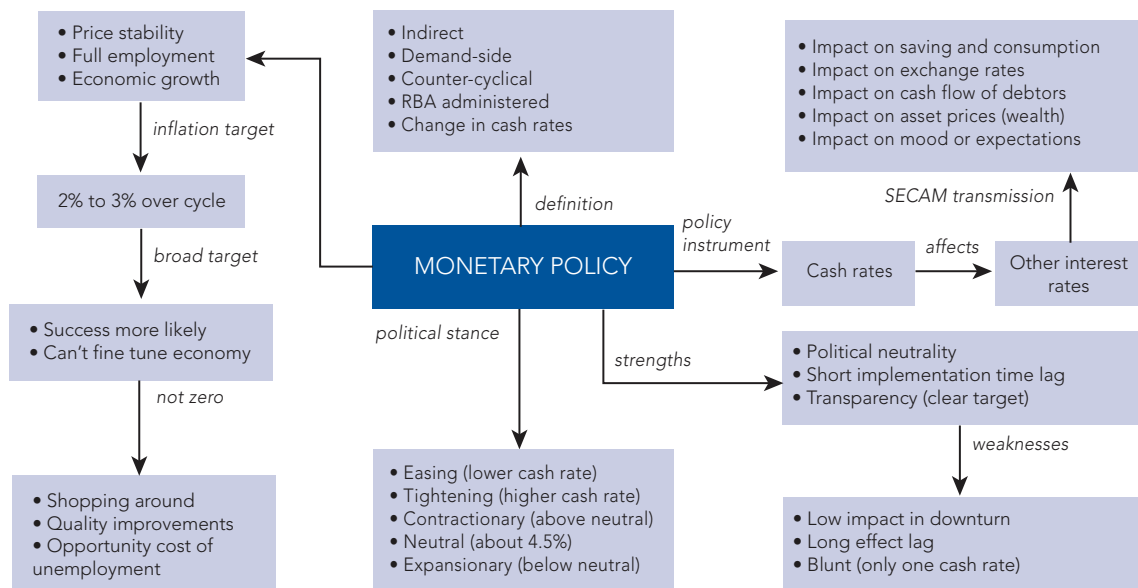
7. The composition of recent budget deficits has involved:
 - (a) structural and cyclical deficits.
 - (b) structural balances and a cyclical deficits.
 - (c) structural deficits and a cyclical surpluses.
 - (d) structural and cyclical surpluses.
8. The budget deficits in 2008-09 and 2009-10 during the Global Financial Crisis:
 - (a) provided a stimulus to the economy and helped the economy avoid a recession.
 - (b) led to a slow down in the Australian economy and led to a recession.
 - (c) contributed, along with a change in Chinese growth, to a fall in aggregate demand.
 - (d) caused a fall in cash rates as a result of crowding out.
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 Keynesian multiplier process.
 - (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 in Australia is low and may even be negative as a result of crowding out and savings offsets.

Question Discuss the advantages and disadvantages of returning the budget to surplus in two years' time. [20 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
Evaluation / Conclusion	

OVERVIEW – 10 STEPS TO UNDERSTANDING MONETARY POLICY

1	Monetary policy is an indirect, counter-cyclical, demand-side policy conducted by the Reserve Bank of Australia (RBA) through changes in the cash rate or order to achieve its economic objectives.
2	The cash rate is determined by the supply of and demand for exchange settlement funds held by a number of financial institutions in accounts at the RBA. The RBA can control the demand for and supply of these funds.
3	The objectives of the RBA are (a) to keep inflation within a 2% to 3% annual rate on average over the life of the business cycle, (b) to eliminate cyclical unemployment and (c) to promote economic growth.
4	The main framework used to guide monetary policy is the inflation target. Note that the target is not zero and it is not a specific figure. The RBA has been generally successful in meeting the inflation target, and 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 cash rate feed through to changes in aggregate demand and the macroeconomic objectives is known as the transmission mechanism.
6	If aggregate demand is considered to be too low, monetary policy can be eased by a reduction in cash rates. If aggregate demand is considered to be too high, monetary policy can be tightened by an increase in cash rates. The RBA normally changes cash rates by 0.25% at a time but it does not have to do so. If cash rates are above 4.5% the monetary policy stance is considered to be contractionary. If cash rates are below 3.5% the monetary policy stance is considered to be expansionary. A neutral level for the cash rate is, therefore, considered to be between 3.5% and 4.5%.
7	A change in interest rates affects aggregate demand in five ways (a) by affecting the level of savings and consumption, (b) by affected the exchange rate, (c) by affecting the cash flow or disposable income of debtor households and businesses, (d) by affecting household wealth through changed asset prices and (e) by affecting the general mood or expectations of consumers and businesses in the economy.
8	Monetary policy has different strengths and weaknesses to fiscal policy. The RBA is independent of the government and, therefore, has no political bias. It has short inside lags (decision and implementation lags). The way the RBA conducts monetary policy is transparent and explained through various statements and reports.
9	The main weakness of monetary policy is that it is largely ineffective in lifting an economy out of a slump or trough. The RBA can lower cash rates, but, due to the indirect nature of monetary policy, cannot ensure that people will react positively to the changes. When confidence and expectations are low the transmission process is weak.
10	During the downturn in the Australian economy following the global financial crisis cash rates were reduced from 7.25% to 3%. They were raised to 4.75% as the economy appeared to recover but, as the recovery petered out, they were steadily reduced again to 2.5%, a record low rate for the RBA. The rate was left unchanged at 2.5% between August 2013 and February 2015, but was eased further in during 2015.

Monetary Policy mind map



14.1 THE CONCEPTS OF MONETARY POLICY AND THE CASH RATE

What is monetary policy?

Monetary Policy is carried out by the Reserve Bank of Australia and involves the management of interest rates in order to influence the level of economic activity.



- The Reserve Bank of Australia is the country's central bank. It is independent of 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 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 it can be described as being counter-cyclical.
- All interest rate changes are discretionary and are made after discussion by the Reserve Bank Board. Unlike fiscal policy, monetary policy does not have any built-in mechanism for automatic stabilisation.

Are the macroeconomic objectives of the Reserve Bank the same as the government's objectives?

The objectives of the Reserve Bank are stated in the Reserve Bank Act 1959. The objectives are to achieve:

- **'stability of the currency':** Keep inflation within a 2% to 3% target band on average over the life of the business cycle.
- **'maintenance of full employment':** Avoid cyclical unemployment and maintain unemployment at the non-accelerating inflation level of unemployment (NAIRU).
- **'increase the economic prosperity and welfare of people of Australia':** Foster as much economic growth for as long as possible consistent with price stability.

What policy framework is followed by the Reserve Bank?

The monetary policy framework focuses on keeping annual inflation within a 2% to 3% band over the life of the economic cycle. The RBA 2% to 3% inflation band is its only clear policy target. This rate of inflation is low enough to avoid distorting economic decisions.

Why does the RBA have an inflation target?

Inflation targeting is now practiced by most Central Banks around the world. Inflation targeting provides the Bank with:

- **Performance Indicator:** The Bank can monitor its performance against the inflation target.
- **Policy guidelines:** The Bank has a clear framework to use when deciding policy changes.
- **A way of changing inflationary expectations:** If the Bank is successful in meeting its target people will assume or expect inflation to continue to stay within target band.

Why is the inflation target not 0%?

The Reserve Bank does not attempt to achieve absolute price stability or zero inflation. It prefers the target of 2% to 3% inflation on average over the business cycle because:

- **Opportunity cost in terms of higher unemployment:** The trade-off in achieving zero inflation would be higher unemployment and the economic and social costs this would create.
- **People can shop around:** The Consumer Price Index (CPI) overstates changes in the cost of living because while people can shop around to avoid inflation, e.g. by buying specials and going to other stores, the Australian Bureau of Statistics keeps to the same stores and products.
- **Improvements in quality:** The CPI also overstates changes in the standard of living because it does not take account of quality improvements in products.
- **Fear of deflation:** Zero inflation could easily become deflation if the policy settings were not quite right. Deflation is feared because it locks in slow economic growth because, for example, the real value of debts increase, consumption spending is postponed until prices fall, and profits fall because sales prices fall faster than the costs of production.

Why is the target not a precise figure?

The RBA, unlike some other Central Banks, has a broad target for inflation rather than a precise figure. This is because:

- **Fine-tuning is not possible:** The RBA acknowledges that monetary policy can't be used for 'fine-tuning' the economy. It only has one policy instrument and this is a blunt or general one.
- **It is easier to hit a big target:** One aim of inflation targeting is to change inflationary expectations. The more successful they are in achieving the target the more expectations can be managed. By having a target zone, rather than a precise level, the Bank has an improved chance of being successful in achieving the target.

What is the main policy instrument used by the Reserve Bank?

The RBA manages interest rates in the economy through its ability to control the supply of money in the exchange settlement section of the short-term money market. The interest rate in this market is called the 'cash rate'. Changes in the cash rate influence other interest rates in the economy, which, in turn affect aggregate demand and macroeconomic performance.

The target level for the cash rate is announced by the Reserve Bank on the first Tuesday each month (apart from January). A change in the target rate is a signal to the banking system that borrowing will become more or less expensive. Banks usually take notice of the signal sent by the RBA and adjust their rates without being forced by the RBA to borrow in the short-term money market.

Other monetary policy instruments have been used in other countries, such as controlling the level of lending, controlling the assets banks hold and selling or purchasing government bonds to influence the level of bank liquidity.

Student Activity 14.1

1. Define the term 'monetary policy'.

2. Complete the following table to show you understand the basics of monetary policy.

a) Who determines monetary policy?	
b) What is the monetary policy instrument?	
c) What are the policy objectives of the Reserve Bank?	1 2 3
d) What is the policy framework for monetary policy?	
e) What is the RBA's inflation target	
f) Is monetary policy essentially a demand-side or supply-side policy?	

3. Briefly discuss whether a -2% to -1% inflation target would be better than the RBA's current 2% to 3% inflation target.

14.2 CHANGES IN THE CASH RATE

What is meant by the term 'monetary policy stance'?

The monetary policy stance may be:

Easing or loosening	Cash rates are falling to cause aggregate demand to increase
Expansionary (accommodative)	Cash rates are set at a level low enough to cause an increase in aggregate demand
Neutral	Cash rates are set at a level that neither increase nor decrease aggregate demand
Tightening	Cash rates are rising to cause aggregate demand to decrease
Contractionary	Cash rates are set at a level high enough to cause a decrease in economic activity

The RBA estimate for the neutral cash rate has fallen from 5% to 6% to 3.5% to 4.5% as commercial banks have widened their lending spreads (the difference between the rates they charge borrowers and the rate they pay to depositors)

In what circumstances will the RBA change the cash rate?

Monetary policy decisions are made by the Board of the Reserve Bank and are based on consideration of a wide range of leading, coincident and lagging indicators. Even though they have a clear inflation target to achieve they do not react slavishly or robotically to changes in the level of inflation. The 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.
- other policy settings, e.g. fiscal policy.

The RBA Board has attempted to anticipate changes in the economy rather than wait for problems to build up. They react, for example, to inflationary or deflationary pressure rather than actual changes in CPI. They move early because:

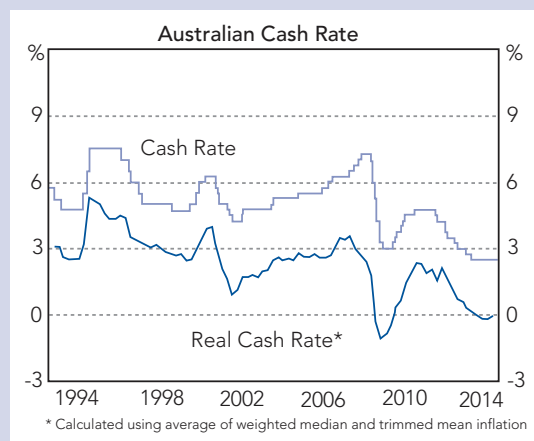
- there are relatively long outside or effect lags.
- their cash rate changes can be smaller and, arguably, less disruptive.

Student Activity 14.2

1. Complete the following table.

a) What does the RBA do to cash rates when it tightens monetary policy?	
b) What does the RBA do to cash rates when it eases or loosens monetary policy?	
c) If the cash rate is set at a level to increase aggregate demand, the monetary policy stance is said to be...	
d) If the cash rate is set at a level to decrease aggregate demand, the monetary policy stance is said to be...	
e) If the cash rate is set at a level to leave the level of aggregate demand unchanged, monetary policy stance is said to be...	
f) Currently the RBA believes the neutral level of the cash rate is about...	

2. Use the data in the chart to complete the table below.



Source: ABS, RBA

a)	What was the cash rate between August 2013 and February 2015?	
b)	What term describes the monetary policy stance during 2014?	
c)	What term describes the monetary policy stance during the period 2003 to 2007 inclusive?	
d)	What term describes the level of cash rates in 2007 before the Global Financial Crisis?	
e)	What was the rate of inflation at the end of 2014?	

3. Suggest two leading, two coincident and two lagging indicators that will form part of the decision making process of the Board of the Reserve Bank when setting the cash rate.

Leading indicators	Coincident indicators	Lagging indicators
1.	1.	1.
2.	2.	2.

4. Explain how monetary policy is used in a counter-cyclical way. What cycle is it countering?

14.3 HOW MONETARY POLICY AFFECTS THE LEVEL OF ECONOMIC ACTIVITY

Why is the impact of monetary policy described as indirect?

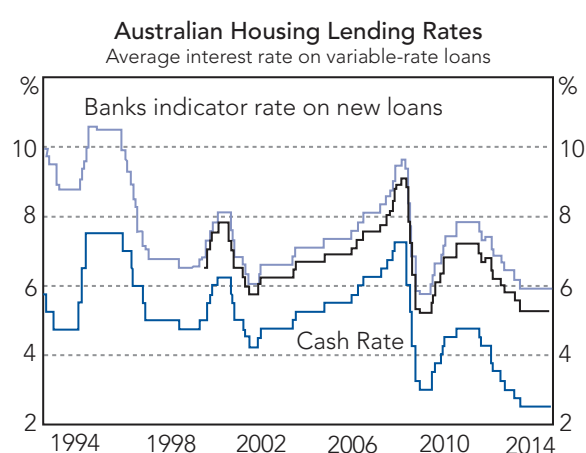
Monetary policy has an indirect effect on the economy. There are two stages in the transmission process. A change in the cash rate affects other interest rates that, in turn, affect the components of aggregate demand. Changes in aggregate demand then affect the economy's macroeconomic objectives.

Why do changes in the cash rate 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 in financial market or money markets. Factors affecting demand and supply in these markets include:

- The level of risk (e.g. the credit rating of the borrower, 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 of the money market, so a change in conditions in one market (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.



Source: ABS, APRA, Perpetual, RBA

What causes the next stage of the transmission mechanism?

There are five ways a change in the average level of market interest rates impacts on the level of aggregate demand.

- **A time shift effect between consumption and saving:** A change in interest rates changes the opportunity cost of consumption. For example a rise in market rates encourages saving and discourages consumption. For keen readers this process is known as inter-temporal substitution.
- **A cash flow effect:** A change in interest rates affects the amount of debtor household and business income left over for other spending. For example a change in home loan interest rates changes the level of monthly repayments and the cash flow of households.
- **Asset price effect:** A change in interest rates affects the market price of bonds, shares and property. A change in nominal wealth affects households' willingness to spend.
- **Expectations effect:** A change in interest rates affects the general mood or climate in the economy. For example, a rise in rates provides a signal that the RBA is prepared to decrease the level of aggregate demand to control the rate of inflation.
- **Exchange rate effect:** A change in interest rates in Australia changes interest rate differentials between Australia and the rest of the world (assuming overseas rates do not change). A change in interest rate differentials alters foreign investment flows and hence the exchange rate. Changes in the exchange rate alter international competitiveness and the level of net exports.

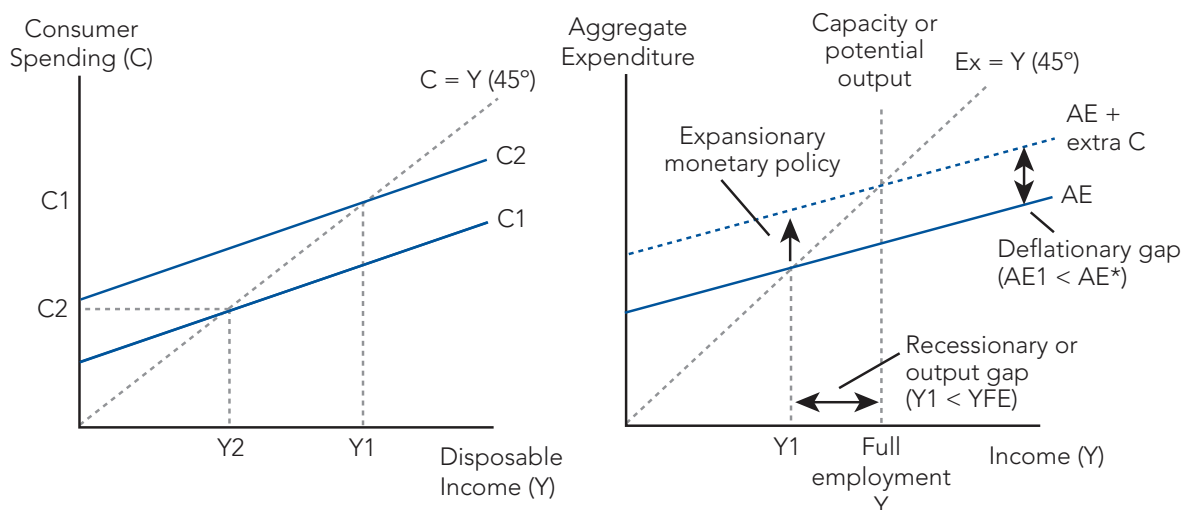
How does a change in interest rates affect each component of aggregate demand?

It is important to understand how a change in interest rates affects each of the components of aggregate expenditure.

Consumption

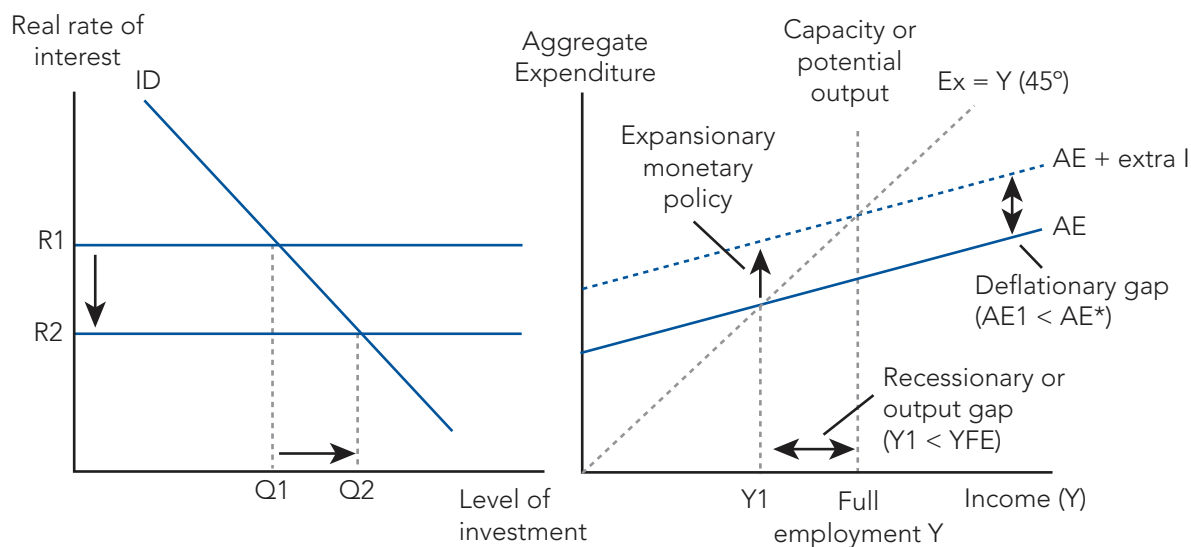
A fall in interest rates should have the following effect on consumption and aggregate expenditure.

- **Time shift effect:** More consumption and lower 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.
- **Expectations effect:** Expansionary economic mood or climate.



Planned investment

A fall in interest rates should have the following effect on planned investment and aggregate expenditure.



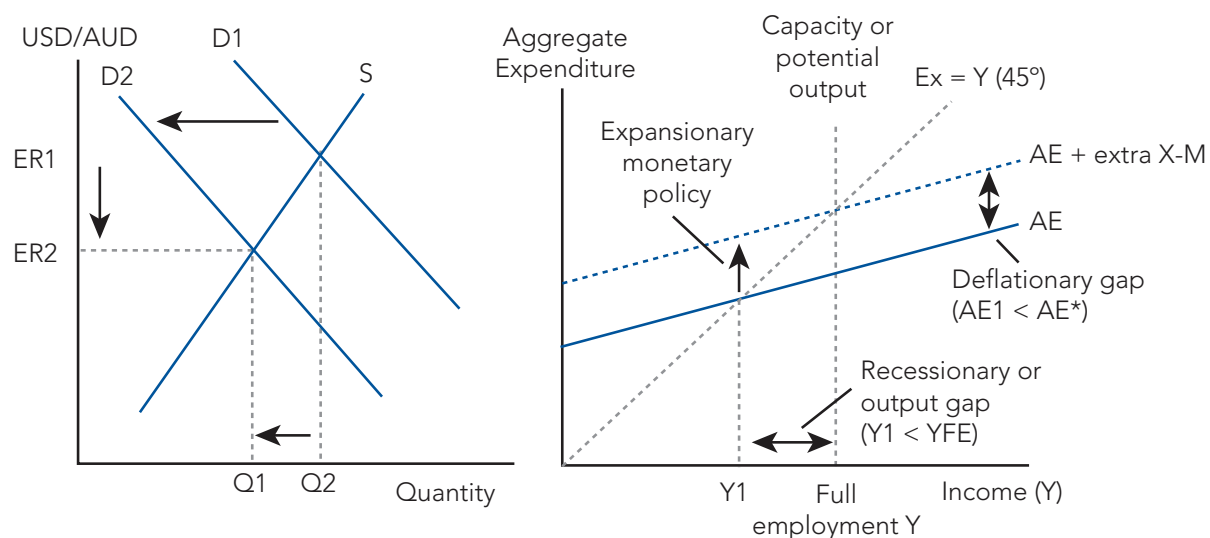
Government spending

A fall in interest rates has little direct impact on government spending and aggregate expenditure.

Net exports

A fall in interest rates should have the following effect on net exports and aggregate expenditure.

- **Fall in the exchange rate:** Depreciation of the exchange rate should, after time, reduce the trade deficit.
- **Income effect on imports:** The rise in income caused by lower interest rates will increase the level of imports.



Student Activity 14.3

1. Why might a fall in interest rates cause the following?

a) A fall in household saving	
b) An increase in the cash flow of some households	
c) A rise in share prices and property prices	
d) A fall in the exchange rate value of the A\$	
e) A Change the economic climate	

2. Work out a way of remembering the five channels of the transmission mechanism. For example, if S = shift between savings and consumption, E = change in the exchange rate, C = change in cash flow, A = change in nominal value of assets and M = change in mood or expectations you may be able to remember SECAM as a mnemonic.

14.4 EVALUATION OF MONETARY POLICY

What are the strengths of monetary policy?

The RBA has generally been successful in preventing inflation exceeding the 2% to 3% inflation target.

- **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 each month (apart from January) and can implement a policy change straight away. It skips the process by which legislators debate fiscal policy and create compromises on order to get tax and government spending changes accepted.
- **No political interference:** The RBA is independent of politics and is not involved in the election process. The RBA can make changes to interest rates in order to achieve the monetary policy framework target of 2% to 3% inflation on average over the economic cycle. It does not have to worry about how popular the decisions are.
- **Transparency:** The RBA has a clear inflation target. It publishes a statement explaining each monetary policy decision, and the minutes of each Board meeting. The RBA also produces quarterly statements about monetary conditions and the Governor meets with a parliamentary committee twice a year.
- **No crowding out:** Stimulus through fiscal policy may involve borrowing at higher interest rates. There are no such side-effects from monetary policy.

What are the weaknesses of monetary policy?

- **Long effect or impact lag in a recession or slump:** There are a number of reasons why the transmission mechanism associated with an expansionary monetary policy stance is weak and there is 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 will not borrow to finance spending.
- **Low interest rates and profit margins:** 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, 2.5% to 2.25% is likely to have little effect on investment decisions.
- **Other factors affect exchange rates:** Relative interest rates are not the only factor affecting exchange rates. Commodity prices and the risk environment may override interest rate differentials in determining demand for and supply of the currency.
- **Banks can increase their margins:** Not all changes to the cash rate are fully passed on immediately to bank customers.
- **Ineffective against cost-push inflation:** Monetary policy can be effective a controlling demand-pull inflation but it is powerless in preventing 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).

Student Activity 14.4

1. Explain four reasons 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 four reasons why monetary policy may be preferred to fiscal policy for managing the level of aggregate demand.

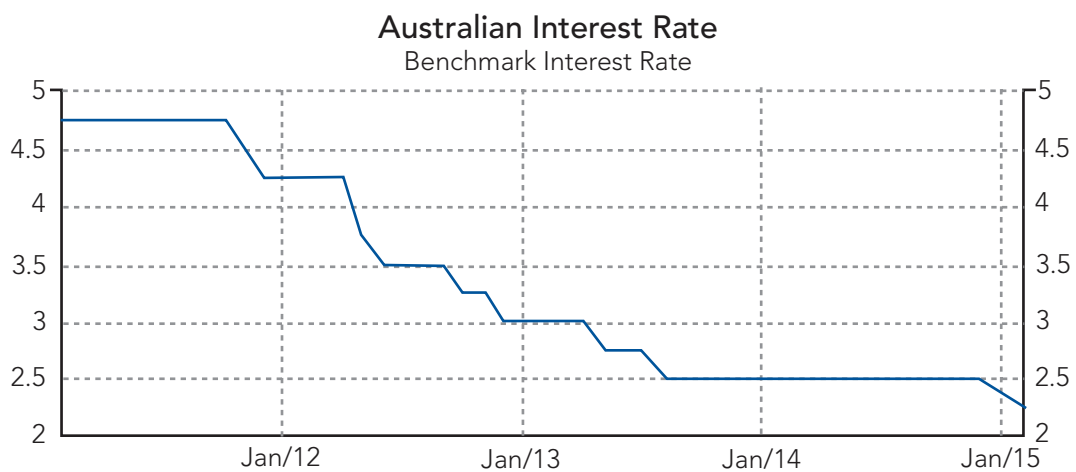
3. Compare the time lags involved in monetary policy and fiscal policy.

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 the natural rate of unemployment.

14.5 RECENT MONETARY POLICY

Cash rates fell in 2012 and the first half of 2013. In August 2013 cash rates were reduced to 2.5% and remained there until February 2015. The cash rate was reduced to 2.25% in February 2015 and to 2% in May.



Source: tradingeconomics.com

During the period of cash rate stability the RBA was weighing up the advantages and disadvantages of a further rate cut. Further rate cuts would:

- increase economic growth and reduce unemployment without fear of inflation moving above the inflation target.

- reduce the exchange rate value of the Australian Dollar.
- match the low rates in other countries caused by quantitative easing.

Further rate cuts were delayed, however, because:

- the cuts in 2012 and 2013 were beginning to have some effect.
- the fall in commodity prices eventually caused a fall in the exchange rate.
- a housing price bubble appeared to be developing, especially in Sydney and Melbourne.
- a falling exchange rate would be inflationary.



Student Activity 14.5

1. Explain movements in the cash rate since the beginning of 2015.

SO YOU NOW THINK YOU UNDERSTAND MONETARY POLICY

Definition 1 2	Five monetary stances 1 2 3 4 5
Objectives of Reserve Bank 1 2 3	Four strengths of monetary policy 1 2 3 4
Policy instrument	Four weaknesses of monetary policy 1 2 3 4
Policy target	Recent monetary policy From 2012 onwards
Three reasons for a target 1 2 3	Current rate
Three reasons why 2% to 3% 1 2 3	Next move?
Five parts to transmission mechanism 1 2 3 4 5	Factors RBA will consider
Impact on C – Ip – G – X-M	Three international factors 1 2 3
	Three domestic factors 1 2 3

REALITY CHECK

Chapter 14: Monetary Policy

1. Which of these variables provides the RBA with its framework for making monetary policy decisions?
 - (a) Real GDP.
 - (b) The money supply.
 - (c) The underlying inflation rate.
 - (d) The unemployment rate.

2. Which one of the following is the main policy instrument of monetary policy in Australia?
 - (a) The level of the money supply and credit.
 - (b) The cash rate.
 - (c) The level of government spending and taxation.
 - (d) The exchange rate value of the Australian Dollar.

3. Which of the following will be the primary impact of a rise in the cash rate?
 - (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 is consistent with an expansionary monetary policy stance?
 - (a) A reduction in the cash rate from 7% to 6.75%.
 - (b) A reduction in the cash rate from 2.50% to 2.25%.
 - (c) An increase in the cash rate from 5% to 5.25%.
 - (d) An increase in the cash rate from 6.75% to 7%.

5. Which one of the following is the most likely consequence of an increase in cash rates?
 - (a) A fall 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.

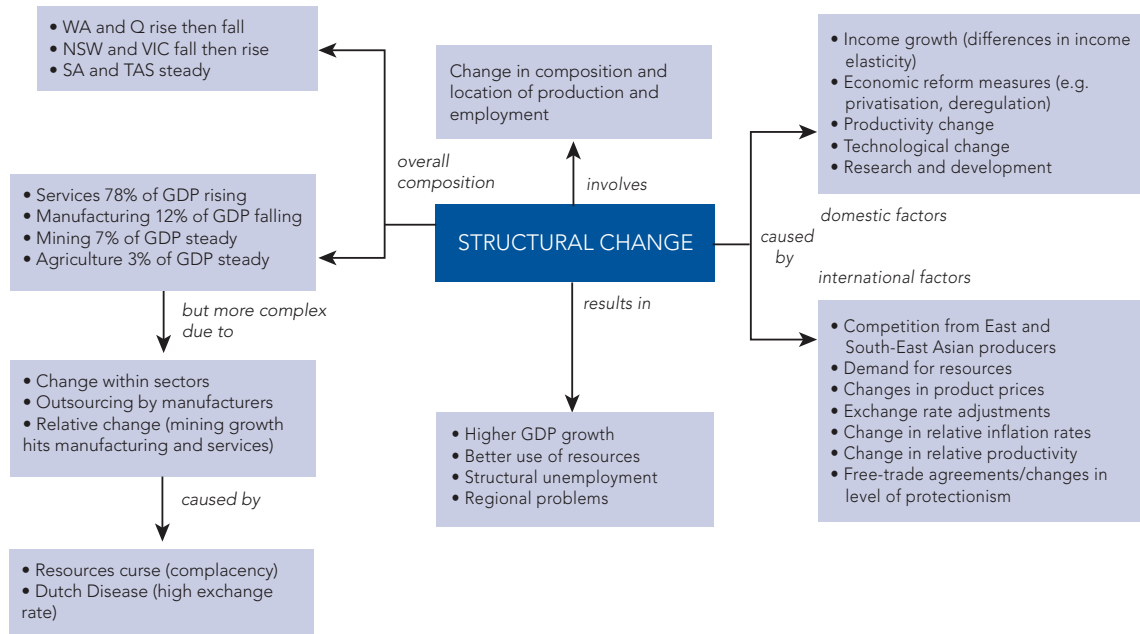
7. Which one of the following does NOT describe a strong point of monetary policy?
- (a) Monetary policy is flexible and changes can be made quickly.
 - (b) The Reserve Bank is independent of the government and it has no political bias.
 - (c) In a recession monetary policy has a short effect or impact lag.
 - (d) There is a clear inflation target that provides a framework for monetary policy decisions.
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) 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 cash rates to reduce the level of aggregate demand.
 - (b) reduce cash rates to increase the level of aggregate demand.
 - (c) sell government bonds to the public to decrease the level of money deposited in banks.
 - (d) leave rates unchanged because price stability is the Reserve Bank's only economic objective.

Question Explain the factors that have influenced cash rate decisions in the last three years. [14 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

OVERVIEW – 10 STEPS TO UNDERSTANDING STRUCTURAL CHANGE

1	Structural change involves changes in the composition and location of production and employment in an economy over time. Structural change is a continuous process as industries within the economy respond to domestic and international factors affecting their profitability.
2	The extent of structural change can be measured using indices that measure the changes in share of output, employment, investment and exports of specific industries over time. These measures suggest the pace of structural change has quickened over the last 15 years or so.
3	The pattern of structural change is complex, with changes taking place between sectors and within sectors. Taking a broad, long-term perspective the share of output has increased in the service and mining sectors and declined in agriculture and manufacturing. These changes are mirrored in the relative rise in the share of the nation's output produced in Western Australia and Queensland and the relative fall in New South Wales, Victoria and South Australia (Tasmania has continued to produce only a small share of the nation's output).
4	The factors causing structural change can be market-generated or government generated and can come from within the domestic or from the international economy. The main domestic factor is a change in real incomes and the material standard of living of people in the economy. As incomes rise, households have more disposable income for discretionary spending. Much of this discretionary spending goes on services. Australia's natural resource endowment gives us a comparative advantage in agriculture and mining. Productivity levels, embodiment of technology and research and development are also important internal factors.
5	Given the internationalisation of the Australian economy, there are also international factors that cause structural change. To be successful in a globalised world, countries need to be internationally competitive so they can, for example, share in the gains from trade, attract foreign direct investment and multinational corporations, borrow money in capital and financial markets at reasonable rates and attract skilled workers. Industries that make internationally competitive products produce goods and services that meet the test of international markets. It reflects the ease or difficulty experienced by a country's producers in selling goods and services overseas. Their ability to export successfully, or make goods domestically that can compete with imports, will change, for example, when there are changes in relative inflation rates, wage rates per unit of production, labour productivity and exchange rates.
6	At the macroeconomic level Australia has coped well with structural change achieving, for the most part, the macroeconomic policy objectives. However, on a microeconomic level, industries and their workers have experienced the pain of the process of adjustment.
7	The mining boom adversely affected the competitiveness of other sectors in the economy leading to what was described as a two-speed or patchwork economy as the economy suffered from a version of the 'Dutch Disease' and the 'Resources Curse'.
8	Government policy may promote appropriate structural change to boost economic efficiency and productivity through market-based or interventionist economic reforms.
9	The government also has a role in managing the transition, helping those that are caught up in the process. There are difficult trade-offs to manage, for example, between efficiency and equity and between economic and social outcomes.
10	There is a two-way relationship between structural change and growth. Growth leads to structural change as a result of changes in the level of incomes in the economy. Structural change promotes growth by reflecting or allowing a more efficient allocation of resources in the economy.

Structural Change mind map



15.1 STRUCTURAL CHANGE

What is structural change?

Structural change involves adjustments in the composition and location of production and employment in an economy over time. Structural change, therefore, involves the shift of resources from slower growing areas of the economy to faster growing areas. Structural change is a constant process, and indeed, is always necessary. It occurs when economies move through different stages of economic development and growth and in response to changes in the global pattern of competitive advantage.

In broad terms, what have been the main structural changes in the Australian economy?

Taking a long-term perspective, the Australian economy has been transformed from one centered on the production of primary products to an urban economy mainly producing services. Structural change is, however, a complex process. Changes take place both between and within industry sectors. A crucial point to note is that the shares of GDP in specific sectors cannot sum to more than 100% of overall GDP. Therefore, the expansion of one sector as a proportion of GDP (e.g. services or mining) means other sectors (e.g. manufacturing) have to shrink.

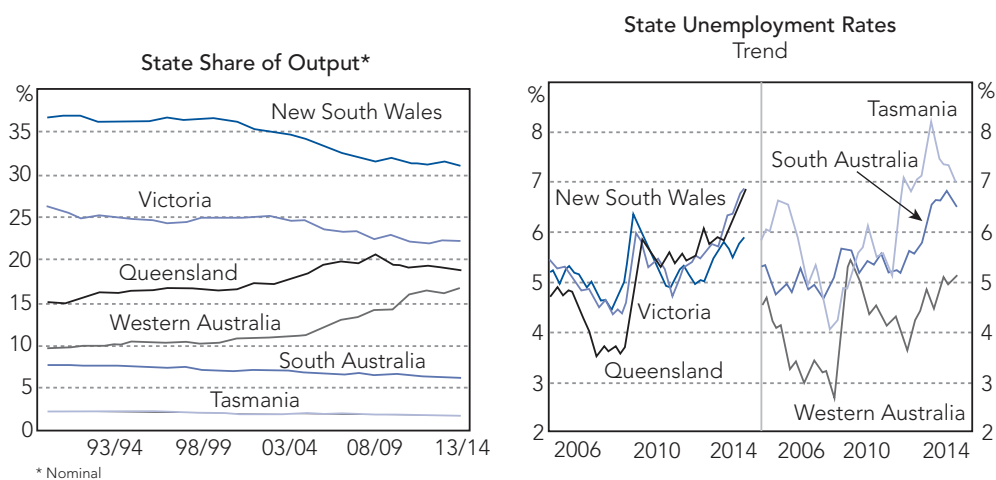
Industry Shares of Economic Activity in Australia (per cent)				
	Agriculture	Mining	Manufacturing	Services
Output				
1960s	13	2	26	59
1980s	6	6	19	70
2000s	3	7	12	78
Employment				
1960s	10	1	26	63
1980s	6	1	17	75
2000s	4	1	11	84

Source: RBA

The main points of the table are:

- There has been a relative decline in output and employment in agriculture and manufacturing. The manufacturing sector now employs about 900,000 and, in 2015, produces 9% of Australia's output
- There has been a relative increase in output in mining and services and employment in services
- The service industries have been the source of almost all of the growth in employment over the past two decades and have facilitated the increase in labour force participation by providing jobs with more flexible working hours than in the traditional goods-producing industries.
- In the 2000s the mining industry grew quickly, lifting the industry's share of investment, output and exports, and contributing to the rising share of activity in the states of Queensland and Western Australia. At the peak of the mining boom, however, only about 120,000 people were directly employed in the industry.

These changes are reflected in the growth rates and unemployment rates in the different states and regions.



Source: ABS

Has the rate of structural change increased?

Structural change has been occurring since the industrial revolution when labour started to move from agriculture to manufacturing and then, with a rise in demand for services, from manufacturing to services. However, structural change indices, that measure the rate of structural change, suggest that the rate of structural change gathered momentum during the late 2000s.

Student Activity 15.1

1. Describe the changes in the share of output and employment for the service, manufacturing, mining and agricultural sectors.

2. Describe the changes in the share of output on a state-by-state basis.

3. Explain why the pace of structural change increased after year 2000.

15.2 FACTORS THAT CAUSE STRUCTURAL CHANGE

Is structural change market-led or government-led?

- Structural adjustments that occur because of the operation of the price mechanism are said to be market induced. These include changes in consumption patterns, technology, demographic factors, and international factors such as globalisation.
- Structural change in product and factor markets also occurs as a result of government policy measures, such as the introduction of the National Competition Policy and completion of free trade agreements.

Do economic growth and a rise in incomes lead to structural change?

Yes! As incomes and material living standards rise as a result of economic growth, the pattern of consumption changes due to different levels of income elasticity of demand for products in different sectors of the economy. As a general rule, income elasticity of demand is higher for services than for manufactured goods, and income elasticity of demand for manufactured goods is higher than for agricultural products causing economies to shift from an agricultural base to an industrial base and then to a services base.

Is exposure to international competition important?

There will be less structural change in areas where producers do not have to compete internationally, as is the case in some service industries. Some firms within these sectors do better than others but the overall size of the sector depends on relative prices and price elasticity and on income levels and income elasticity. The government may introduce some economic reform measures such as deregulation, competition policy and industrial relations to promote an efficient allocation of resources and to reduce deadweight loss.

What factors affect an industry's international competitiveness?

The most likely source of structural change in the economy is a relative change in a sector's international competitiveness. There are a number of factors that have led to changes in the competitive advantage of sectors of the Australian economy.

- **Emergence of major producers of industrialised goods in East and South East Asia:** This process was led by Japan from the 1960s, followed by the newly industrialised economies

of South-East Asia such as Malaysia and Thailand, and most recently by China. The region's share of global manufacturing more than doubled during the period 1970 to 2010. This growth reflects their competitive advantage from relatively low labour costs and reduces the relative international competitiveness of Australia's manufacturing industry.

- **Changes in prices of commodities and manufactured goods:** A rise in commodity prices, such as iron ore, coal and gold, coupled with relatively price inelastic demand, led to increased profits and expansion in the mining sector. On the other hand, falling prices for imported manufactured goods, coupled with relatively price elastic demand, lead to lower profits and contraction in Australia's manufacturing sector.
- **Changes in the exchange rate value of the Australian Dollar:** The appreciation of the Australian Dollar as a result of the rise in our terms of trade and commodity prices and a fall in the price of manufactured goods, led to further reductions in the local prices of imported manufactured goods.
- **Economic reform in international markets:** The internationalisation of the Australian economy with its floating the exchange rate, reduced levels of protectionism and increased flows of foreign investment, increased the exposure of Australian producers to international competition. Some producers, however, were able to adapt sufficiently to make competitive elaborately transformed manufactured goods (ETMs) and contribute to global value chains.
- **Technical change, research and development:** Technical changes in transportation (e.g. containerisation, aircraft design and bulk carriers) and communication (e.g. internet and broadcasting) have helped drive the process of globalisation and hence structural change. The adoption of new technology, often as a result of foreign direct investment, has helped the move to high-end value adding in sectors of manufacturing.
- **Education and skills training:** High levels of education and skills training, amongst other things, help Australia to develop areas of international competitiveness (e.g. medical equipment) and promote a greater level of occupational mobility in the workforce.

Student Activity 15.2

1. Describe impact of the China's industrialisation and urbanisation on the structure of output and employment in the Australian economy.

2. Describe the importance of income elasticity to the structure of output and employment the economy.

3. Describe how trade liberalisation affects the structure of the output and employment in the economy.

4. Describe why a change in the exchange rate alters the structure of output and employment in the economy.

5. Describe three ways technological change has affected the structure of output and employment in the economy.

15.3 MINI-CASE STUDY – THE SERVICE SECTOR

There are many areas within the overall service sector. Some areas face international competition (e.g. tourism and education) while other areas face little or no overseas competition (e.g. construction services and health care).

Internal factors affecting the service sector

- **Rising material living standards:** The demand for services is income elastic, for example when income levels were lower people washed their own cars and dogs. The share of consumption expenditure on services is now about 60% of the total (up from 40% in 1970) and reflects rising spending on health, education, recreational services and financial services.
- **Economic reform:** The restructuring of a number of government monopolies led to more competition in the energy and water supply, communications and transport service industries, especially in the Eastern States. Deregulation of a range of other service

industries has promoted competition and improved the range and quality of service provided (e.g. domestic air travel, finance, superannuation)

- **Technical change:** Investment in computers and software has increased exponentially in real terms, reflecting the rapid improvement in the quality of computers over time and their range of uses. In the finance industry, the adoption of technologies such as automatic teller machines and electronic payment methods in the 1980s and 1990s resulted in significant structural change. Improved transportation technologies and new business practices (such as just-in-time production) are also likely to have resulted in better inventory management and contributed to the reduction in the relative size of distribution services such as wholesale trade and transport.
- **Education and skills training:** Australia is internationally competitive in a number of knowledge-based tradable services, such as accounting, engineering and architecture, because of our high level of education and skills.
- **Growth in two (or more) income households:** The increase in the proportion of families where both parents work has generated more demand for services previously provided within the household (and therefore not measured in production), such as childcare, pre-school education, home maintenance and aged care.
- **Increased longevity:** As people live longer and the average age of the population changes, the demand for services related to health services and aged care grows.
- **Outsourcing:** Firms in goods-producing industries such as manufacturing and mining have progressively outsourced a range of business services to take advantage of the economies of scale generated when these services are provided by specialised firms. The outsourcing of services such as accounting, marketing, safety, transport and IT support has been made possible by improvements in communications technology. Outsourcing means the rise of service industries' share of the economy is overstated since it includes activities previously undertaken by manufacturing industries.

External factors affecting the service sector

- **Changing prices:** Many services can't be loaded on to a ship (or dropped on your foot) and are not traded internationally so, for these services, price changes are not so important.
- **Changes in the exchange rate:** Prices of non-tradable services are not affected by changes in the exchange rate. Services that are traded internationally, e.g. tourism and education services, are affected. Output and employment in these sectors decline as the Australian Dollar appreciates. The retail sector was also affected by on-line purchases overseas when the dollar rose in value.
- **Emergence of East and South-East Asia:** Non-tradable services are not affected by the emergence of East and South-East Asian competitors. Many services cannot be mass-produced and labour productivity is relatively low. However, growing incomes in Asian countries has increased demand in some service sectors, e.g. tourism and education services. Australia's high cost structure has made competing with state-run overseas airlines

Student Activity 15.3

1. Identify why the share of output and employment in the service sector has grown in recent decades.

2. Explain why some areas of the service sector have grown while others have declined since 2000.

15.4 MINI-CASE STUDY – THE MANUFACTURING SECTOR

Internal factors affecting the manufacturing sector

- **Rising material living standards:** The demand for manufactured goods is relatively income inelastic compared to the demand for services. Demand for some products may move up-market rather than increase in quantity.
- **Economic reform:** Tariff cuts and free-trade agreements have reduced the prices of imported goods and given greater access to our market to overseas' producers. The Productivity Commission estimates the effective rate of assistance to manufacturing fell from around 35% in the early 1970s to around 5% in the 2000s.
- **Technical change:** Technical change has promoted the development of global value chains. It also allows labour productivity in manufacturing industry to rise.
- **Education and skills training:** This allows Australia to remain internationally competitive in low-volume high-end manufacturing such as ferries and medical equipment.

External factors affecting the manufacturing sector

- **Changing prices:** The fall in the price of imported manufactured goods, due to the industrialisation of emerging economies in East and South-East Asia, the appreciation of the exchange rate and the liberalisation of trade meant that Australia lost any competitive advantage it might have had in high-volume, low-end manufacturing (e.g. such as clothes and cars).
- **Changes in the exchange rate:** Manufactured goods are tradable. A rise in the dollar makes reduces the price of imported manufactured goods.
- **Emergence of East and South-East Asia:** Abundant cheap labour and less regulation allowed Japan, Malaysia, Thailand and China, for example, to develop a competitive advantage in manufacturing (e.g. toys, cars, computing and electrical goods)

Does the manufacturing sector in Australia have a future?

- Despite the recent fall in the value of the Australian Dollar, realistically, Australia cannot hope to be a large-scale producer of relatively standardised, 'plain-vanilla', manufactured goods for the world market.
- Australia can, however, be a supplier of low-volume, high-end manufactured goods that exploit specific strengths and advantages such as an educated workforce, the ability to design and manufacture specialised equipment, research and development skills and expertise in mining-related equipment.
- Manufacturing firms that move up the value-added chain and participate in Global Value Chains can continue to be competitive. They are able to improve productivity, for example, by ongoing investment in human capital and the latest machinery and equipment and sound management. They also have to be export-oriented.

Student Activity 15.4

1. Explain why Australia has become internationally uncompetitive in the production of high-volume standardised manufactured goods.

2. Give examples of two manufacturing products that Australia can successfully manufacture and export. Give reasons for your selection.

15.5 MINI-CASE STUDY – THE MINING SECTOR

Internal factors affecting the mining sector

- **Rising material living standards:** Most mineral and energy products are exported and, therefore, demand depends on growth rates overseas rather than in Australia.
- **Technical change:** Mineral and energy production is highly capital-intensive. Foreign Direct Investment promotes the transfer of technology to Australian producers. The mining sector only employed about 100,000 people at the height of the mining boom in 2013-14. Transportation technology has had a major impact on the mining sector.
- **Education and skills training:** Many mining jobs require skilled workers. A number of mining companies have recruited workers from overseas, often on 457 work visas to supplement the skills available in the local workforce.

External factors affecting the mining sector

- **Changing prices:** The rise of commodity prices, as a result of growth in demand from China and short-run inelastic supply, encouraged the growth in Australia mineral and energy sector. As commodity prices retreat from their peak levels investment and employment is falling back, but exports continue to be strong.
- **Changes in the exchange rate:** Most mineral and energy products are trading in global markets and priced in US Dollars. A change in the exchange rate alters the Australian Dollar value of producers' profits but not the price buyers pay.
- **Emergence of East and South-East Asia:** Even though the growth rate in China is falling (China's 7.4% growth rate in 2014 was the lowest rate for two decades) the size of the economy still doubles every 10 years even at these reduced growth rates so demand for mineral and energy resources will stay strong.



- **Economic reform:** Free trade agreements with Japan, the Republic of Korea and China signed in 2014 reduce tariffs and quotas on Australia's mineral and energy exports.
- **Foreign direct investment:** Foreign ownership is relatively high in the mining sector, for example both BHP and Rio Tinto are more than 50% foreign owned. Investment allows the industry to build production and export capacity and to benefit from economies of scale and technological developments.

Is there a future for mining?

Of course there is, given our natural resources endowment! The mining investment boom has increased the economy's capacity to increase exports of mineral and energy products. The price paid for these resource exports depends on the level of demand for resources from the producers of manufactured goods, and in turn the rates of growth in the world's major economies, and the supply of resources from countries such as Brazil, Russia and South Africa. It should be noted that:

- the fall in oil prices reduces the cost of transporting resources to East Asia less for Australia than these other countries.
- slower growth in China does not mean a drop in the absolute level of their demand for resources because the size of their economy is increasing. As the chart below shows when the Chinese economy was growing at an average rate of 10.5% during the 2000s China's GDP increased by an average of USD 473b a year while an average rate of growth of 7.8% during to 2010s increases their economy on average by USD 1.1 trillion a year.

Student Activity 15.5

1. Briefly describe the factors that led to the mining investment boom since year 2000.

2. The data shows China's growth rate and the extra GDP produced each year when the Chinese economy grows at this rate. Using the information provided, explain why mining's share of the economy's output has increased but mining's share of the economy's employment has been stable.



Source: ANZ Research

15.6 MINI-CASE STUDY – THE AGRICULTURAL SECTOR

Internal factors affecting the agricultural sector

- **Rising material living standards:** Demand for food as a whole is income inelastic, but demand for higher quality foods (e.g. those than contain proteins and vitamins) is income elastic.
- **Technical change:** New technology has been embedded in many areas of agricultural production, significantly increasing the level of labour productivity
- **Education and skills training:** Many farm jobs require skilled, experienced workers.
- **Economic reform:** Several sectors of the industry have been deregulated (e.g. dairy production) and some less-efficient producers have gone out of business as a result

External factors affecting the agricultural sector

- **Changing prices:** Many agricultural prices are determined in global markets and because of unpredictable weather, disease, price-inelastic demand and inelastic supply, prices are relatively unstable. Overall, the sector has experienced relative rather than absolute decline, and structural change within the sector as a result changes in relative price levels.
- **Changes in the exchange rate:** Food is traded internationally. Many bulk rural products, such as wheat, meat and wool, are priced in US dollars, so export prices are not directly affected by changes in the exchange rate. The price of food imports is related to the exchange rate, as are farm profits.

- **Emergence of East and South-East Asia:** Growth in East and South-East Asian nations provides significant export opportunities for Australian farmers (e.g. for meat and dairy products).
- **Economic reform:** Agriculture historically received support in the form of tax concessions, subsidies, and through regulated markets. This support has decreased over time. Access to some markets (such as the European Union) is restricted. Recent free trade agreements with Japan, the Republic of Korea and China signed in 2014 reduce tariffs and quotas on Australia's agricultural exports.
- **Foreign direct investment:** The level of FDI in agriculture is a matter of debate and the Government has established a register of foreign-owned land. FDI brings in new capital and work practices but may threaten our future food security.

Student Activity 15.6

1. Explain why agriculture's share of the economy's output and employment has declined over the last two decades.

2. Explain why the agricultural sector benefits from Australia's free trade agreements with countries such as Japan, the Republic of Korea, China and India.

15.7 WHAT ARE THE EFFECTS OF STRUCTURAL CHANGE?

What the effects of structural change from a macroeconomic perspective?

On a macroeconomic level Australia has coped successfully with the structural changes caused by, for example, the industrialisation of China, the recent slowdown in the rate of Chinese growth, the mining investment boom, the recent downturn in mining investment, the high Australian Dollar and its recent depreciation. Economic growth has been maintained at a satisfactory level with the last recession occurring in 1991. This sustained growth has delivered higher material living standards, higher levels of employment, and been accompanied by rates of inflation generally within the 2% to 3% target zone and a more efficient use of scarce resources. The economy has been able to adapt successfully as a result of some important economic reform in the 1980s and 1990s such as the floating of the dollar, a reform of the wage bargaining system, deregulation and privatisation, and reduced levels of protectionism.

What are the effects of structural change from a microeconomic perspective?

The impact of structural change on individuals within the economy depends on where they live (e.g. in Perth or Hobart) and where they work (e.g. in mining or manufacturing). Even within specific industries, experience can vary widely from sector to sector and from firm to firm. Structural change means some households experience a process of adjustment that is painful and drawn out. Workers who are geographically or occupationally immobile become structurally unemployed. The distribution of income becomes less even when growth is unbalanced.

Did Australia suffer from a version of the Dutch Disease?

- As you might expect, Holland was the first country to catch the ‘Dutch Disease’ when the expansion of production of North Sea Oil and a resultant rise in their exchange rate reduced the competitiveness of their other industry sectors. The supply of North Sea Oil was finite and, by the time it started to run out, the other industries had disappeared.
- In Australia, in the decade 2002 to 2012 the mining sector expanded rapidly, responding to the rise in demand and rise in commodity prices caused mainly by the demand for our resources from China. The resulting appreciation of the Australian Dollar reduced the international competitiveness of other sectors such as manufacturing and services. The mining states (WA, Q, NT and SA) grew faster than non-mining states (NSW and VIC). Growth was patchy and Australia was described as a two-speed economy. Whether demand from China is more permanent than the supply of Holland’s oil remains to be seen.

Did Australia fall victim to the Resources Curse?

The growth in the resources sector also exposed Australia to the so-called Resources Curse. The success of the resources sector leads to complacency in government and industry circles, hiding the need for productivity growth and dampening enthusiasm for economic reform. As a result non-mining sectors experience a loss of competitive advantage.

Student Activity 15.7

1. Explain the difference between the ‘resource curse’ and the ‘Dutch Disease’

2. Identify two factors that allowed the Australian to adjust to structural change.

15.8 THE POLICY RESPONSE

Should declining sectors be propped up?

One possible policy response to structural change is to prop up sectors in the economy that are in decline, especially if firms within these sectors include some national corporate icons. For example, car producers in Australia (Toyota, Ford and Holden) and Qantas sought subsidies from the federal government during 2014. Had these firms been subsidised jobs would have been protected and orders to suppliers would have been secured. However, this would have perpetuated an inefficient allocation of resources and reduced the level of moral hazard faced by other firms in similar difficulties. The incentive to make productivity improvements is reduced if firms believe government support will be available.

Should the government promote structural change?

Governments can promote structural change through both market-orientated and interventionist economic reforms.

- Market-orientated reforms are those that promote deregulated and competitive markets and, as a result reduce distortions in markets. These reforms include industrial relations reforms, competition policy, a reduction in the regulatory burden on industry and taxation reform.
- Interventionist reforms include an investment in human capital with an increase in the provision of public and merit goods and services such as education, training and research, health services, and investment in transport and communications infrastructure.
- The government may also directly intervene by providing subsidies to infant industries, such as those promoting 'green' technologies and medical research. If resources are not to be misallocated the government has to be confident it can 'pick-winners' successfully.

Does structural change have implications for demand-side management?

Structural change affects the composition of the government's structural spending and taxation rather than its overall level. Individual fiscal policy measures can have a specific and direct impact on the economy.

The Reserve Bank suggests that structural change has three main implications for monetary policy.

- The first is that structural change adds to the difficulty of assessing the balance between supply and demand in the economy. For example, a 2.5% cash rate might be suitable for one sector but not another.
- The second is that it reinforces the need to keep inflation low and stable. The current list of economic uncertainties is long enough without adding uncertainty about the general level of prices to the list. The task for monetary policy is to ensure stability in the overall economy so that difficult decisions at the firm and industry level are not further complicated by macroeconomic instability.
- Third, the RBA may have to pay more attention to the value exchange rate when setting the cash rate.



Student Activity 15.8

1. Outline two advantages and two disadvantages of government protectionist measures to support an internationally uncompetitive industry.

2. Describe two ways the government can promote structural change.

3. Explain two ways the conduct of monetary policy is affected by structural change in the economy.

15.9 THE RELATIONSHIP BETWEEN ECONOMIC GROWTH AND STRUCTURAL CHANGE

There is a two-way relationship between economic growth and structural change

- **Economic growth causes structural change:** Growth in the economy raises income and material living standards that, in turn, change the pattern of consumption. If growth is unbalanced, some sectors grow quickly, others more slowly and some even decline. A positive demand-side shock (e.g. the industrialisation of China) may contribute to growth in one sector (i.e. mining) but reduce growth in another sector (i.e. manufacturing). Growth in one sector (e.g. mining) may create conditions, such as a high exchange rate, that lead to a reduction in the growth in another sector (i.e. manufacturing).
- **Structural change causes economic growth:** Structural change reflects a reallocation of resources. If this reallocation is the result of changes in deregulated, competitive markets, allocative efficiency and productivity increases.

Student Activity 15.9

1. Describe two ways that a rise in material living standards of Australians contributes to structural change in Australia.

2. Explain why structural change facilitates economic growth.



SO YOU NOW THINK YOU UNDERSTAND STRUCTURAL CHANGE

Definition of structural change	Two reasons why industries within manufacturing have different experience 1 2
What has happened to output and employment share of: Services Manufacturing Agriculture Mining	Three factors affecting agricultural sector 1 2 3
Identify growth regions/states	Two reasons why industries within agriculture have different experience 1 2
Identify declining regions/states	Three factors affecting mining sector 1 2 3
Four internal factors that cause structural change 1 2 3 4	Two reasons why government might consider supporting declining sectors 1 2
Four external factors that cause structural change 1 2 3 4	Three market-orientated economic reforms to promote structural change 1 2 3
Three factors affecting service sector 1 2 3	Three interventionist economic reforms to promote structural change 1 2 3
Two reasons why industries within services have different experience 1 2	Three implications for demand-side management of the economy 1 2 3
Three factors affecting manufacturing sector 1 2 3	Two way relationship between growth and structural change 1 2

REALITY CHECK

Chapter 15: Structural Change

1. Which of the following sectors makes the biggest contribution to Australia's GDP?
 - (a) Agriculture.
 - (b) Manufacturing.
 - (c) Mineral and energy.
 - (d) Services.

2. Which of the following would make LEAST contribution to the growth in Australia's service sector?
 - (a) A relatively low level of income elasticity for services in Australia.
 - (b) Outsourcing of specialist tasks by firms in the mining and manufacturing sectors.
 - (c) Free-trade agreements with Japan, Republic of Korea and China.
 - (d) The ageing of the Australian population.

3. Which one of the following did not make a significant contribution to the growth in the mining sector in Australia after 2000?
 - (a) A rise in commodity prices.
 - (b) Rapid industrialisation and urbanisation in China.
 - (c) A relatively high price elasticity of demand for raw materials in Australia.
 - (d) Inflows of foreign direct investment.

4. Which one of the following is NOT a correct explanation of the impact of the growth in the mining sector on Australia's manufacturing sector?
 - (a) The shares of GDP in specific sectors cannot sum to more than 100% of overall GDP.
 - (b) Rising commodity prices helped cause a rise in the value of the Australian Dollar.
 - (c) Growth in mining reduced the urgency for economic reform and productivity growth elsewhere in the economy.
 - (d) Growth in the mining sector contributed to a general reduction in real unit wage costs.

5. In advanced post-industrial economies such as Australia which sector has the highest income elasticity of demand?
 - (a) Services.
 - (b) Manufacturing.
 - (c) Agriculture.
 - (d) Mining.

6. Which of the following contribute to China's relative international competitiveness in manufacturing compared to Australia?
 - (a) Low hourly wage rates in China.
 - (b) Economies of scale as a result of the large scale of production in China.
 - (c) Management of the exchange rate value of the Renminbi (RMB) by China.
 - (d) All of the above.

7. Multinational car producers have announced they will soon cease car production in Australia. Car production in Australia has become unprofitable because:
- (a) Government subsidies to the car industry have been withdrawn.
 - (b) There are no efficient car component producers in Australia.
 - (c) Transporting cars to markets around the world is becoming increasingly expensive.
 - (d) Labour productivity in Australia is not high enough to compensate for relatively high cost of doing producing cars Australia.
8. Which of the following would cause a rise in structural unemployment in Australia?
- (a) A shortage of training colleges and apprenticeships.
 - (b) A downturn in the business cycle.
 - (c) An increase in the level of protection for Australian producers.
 - (d) Deregulation of labour markets and industrial relations.
9. Which of the following is LEAST likely to contribute to growth in Australian dairy production?
- (a) A price war between Australia's supermarkets.
 - (b) Rising incomes across Asia.
 - (c) Deregulation and increasing productivity in Australia's dairy industry.
 - (d) Free trade agreements between Australia and countries in Asia.
10. Despite an increase in the extent of structural change in Australia over the last decade, Australia's macroeconomic performance has continued to be relatively strong. Which of the following supports the on-going process of structural change in Australia?
- (a) The policy framework for the monetary policy decisions of the Reserve Bank.
 - (b) Government regulation in the labour market.
 - (c) A series of budget deficits.
 - (d) A relatively freely floating exchange rate.

Question Explain why end of the mining investment boom will lead to structural change in the Australian economy. [14 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
	Evaluation / Conclusion

MEASURES TO IMPROVE PRODUCTIVITY



SYLLABUS CHECKLIST

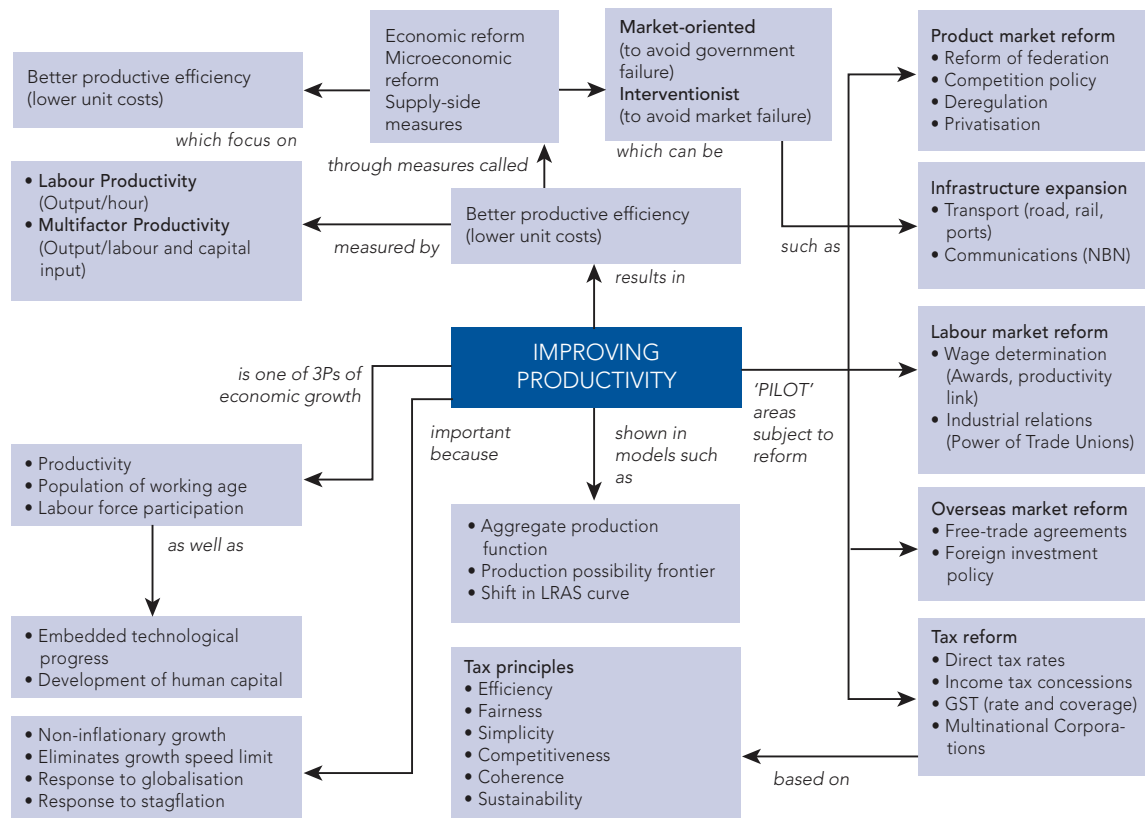
Topics covered in this chapter:

- ☐ The concept of productivity.
- ☐ The distinction between labour productivity and multi-factor productivity.
- ☐ The relationship between productivity and economic growth.
- ☐ Recent (the last ten years) government policies that promote productivity and economic growth, such as labour market reform, taxation reform, trade liberalisation, deregulation and competition policy, investment in infrastructure, education and training, research and innovation.
- ☐ The impact of productivity on the achievement of macroeconomic objectives.

OVERVIEW – 10 STEPS TO UNDERSTANDING MEASURES TO IMPROVE PRODUCTIVITY

1	Productivity is a measure of productive efficiency. The level of productivity is the level of output divided by the level of resource input. There are two common measures of productivity, labour productivity (GDP / hours of labour used) and multifactor productivity (GDP / hours of labour plus quantity of capital used).
2	Productivity growth is important for sustained economic growth. Without productivity growth, economic growth falls as a result of the law of diminishing marginal returns (or increasing costs). The law states that output grows at a slower rate than the rate of increase in resources, i.e. doubling resource input does not double the output. Productivity growth raises the level of potential output or the capacity of the economy and, therefore, allows growth in actual output without an increase in the rate of inflation.
3	Productivity is one of the so-called '3Ps' that determine the level of economic growth, the other Ps being the working age population and the labour force participation rate.
4	Productivity growth is caused by an increase in the quality of economic resources and an improved allocation or use of these resources. Factors that contribute to a qualitative change in resources include new business investment and investment in public infrastructure and development of the human capital of the workforce (e.g. education and training). Factors that contribute to an improved allocation of resources include an increase in international trade, economies of scale and advances in technology.
5	The government can influence the level of productivity by intervening less in areas where free markets maximise welfare and intervening more in areas where free markets create deadweight loss. The trick for the government is to understand when government intervention is appropriate and when it is not.
6	Policy measures that alter the level and type of government intervention are called economic reform measures, supply-side policies or microeconomic reforms (MER). Some of the measures are market-orientated and others are interventionist measures.
7	Australian governments have a long history of regulating the labour market and workplace relations. Governments have tried to strike a balance between fairness (through central control and regulation) and efficiency (through promoting the operation of market forces in the labour market).
8	Taxation reform has become another target for economic reform. Tax reform is needed not only to raise more taxation revenue but also to contribute directly to productivity growth by increasing the incentive and reward for working efficiently and by avoiding some market distortions.
9	The promotion of free trade and increased flows of foreign investment is a third area for economic reform. Trade brings both static and dynamic benefits and foreign investment provides the finance for more planned investment and the introduction of technological progress.
10	Other areas of economic reform include product market reform (e.g. competition policy, deregulation and privatisation), developing public infrastructure (e.g. in transport and communications), developing human capital (e.g. education, training and health care), and promoting research and innovation (e.g. partnerships between government, universities and industry and research by the CSIRO).

Improving Productivity mind map



16.1 THE CONCEPT OF PRODUCTIVITY

What is productivity?

Productivity is a measure of productive efficiency. Productivity is the level of output achieved from a given level of resource input. If production can be increased without the use of any more resources, unit costs of production can fall. 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.

How is productivity measured?

There are two common measures of productivity, labour productivity and multifactor productivity. Labour productivity is a ratio of output to the input of labour (usually measured in terms of hours worked) and multifactor productivity is a ratio of output to the combined input of labour and capital. GDP is a measure of output in the economy as a whole.

Type	Definition
Labour productivity	$\frac{\text{GDP}}{\text{Labour hours worked}}$
Multifactor productivity	$\frac{\text{GDP}}{\text{Labour hours} + \text{capital inputs}}$

Measurement of productivity in the industries that produce goods is more straightforward than measuring productivity in service industries, where output is less tangible and prices are not always market based (e.g. nursing services in a public hospital).

Student Activity 16.1

1. In 2015 a manufacturer produced 100 widgets in an 8-hour shift, employing five workers and two machines. In 2016, as a result of an inflow of foreign direct investment, production has been increased to 150 widgets each 8-hour shift, employing three workers and four machines.

a)	What was the level of production in 2015?	
b)	What was the level of labour productivity in 2015?	
c)	What was the level of labour productivity in 2016?	
d)	Describe two factors that contributed to the change in labour productivity.	

2. Using the data in the table, comment on the productivity of the teacher of this class.

Year	Students in class	Students achieving A grade	Students achieving B grade	Students achieving C grade	Laptops per student
2010	20	6	8	6	0.5
2015	15	6	5	4	1

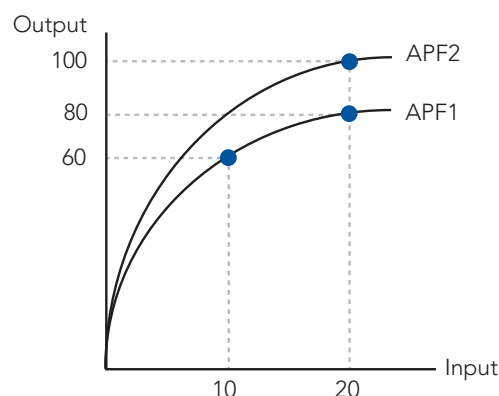
16.2 THE RELATIONSHIP BETWEEN PRODUCTIVITY AND ECONOMIC GROWTH

Why is productivity growth important?

- The law of diminishing marginal returns (or increasing costs) suggests it is difficult to achieve sustained growth simply by adding more resources to the production process. The law states that while the total level of output may keep rising when extra resources are used, the extra output from each extra resource input will get less or diminish. Total output, therefore, rises at a decreasing rate.
- An increase in productivity is needed, e.g. from the use of higher quality resources, to sustain the rate of economic growth.
- This can be shown on an aggregate production function diagram. The aggregate production function (APF) shows the relationship between output and resource input. The

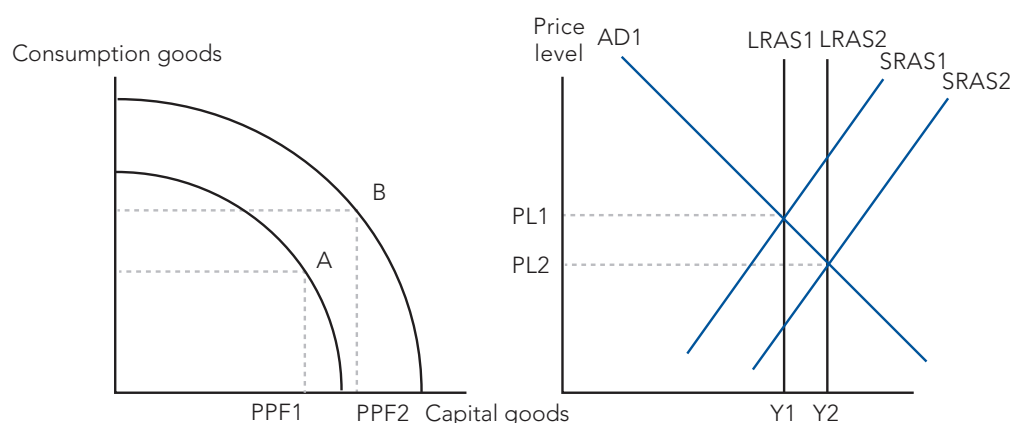
gradient of the APF falls as a result of diminishing returns.

- APF1 shows that doubling resource inputs only increases output by 33%.
- APF2 shows that the affect of a rise in productivity. Output is increased at each level of resource use. The rate of increase in output can, therefore, be maintained when productivity is increased.



Are there other models that can show the impact of a rise in productivity?

A rise in productivity will shift the production possibility frontier outwards (as shown in the left hand pane) and shift AS down and to the right (as shown in the right hand pane). Depending on the cause of the rise in productivity, aggregate demand may shift to the right as well (e.g. as a result of increased investment on public infrastructure).



So productivity raises the speed limit for growth?

Without a rise in productivity the output gap (the difference between actual GDP and potential GDP) would close when aggregate demand increases. While a smaller output means lower cyclical unemployment it also means an increase in demand-pull inflation and rise in imports, causing the rate of growth to fall back again. However, if productivity growth accompanies the rise in aggregate demand the growth speed limit is raised.

Does the actual growth rate affect productivity?

In the short run, yes! When the actual level of output falls below the potential level of output, firms find themselves with spare capacity. They may be able to reduce capacity by sacking workers or selling equipment, but this may be difficult. They may wish to maintain their production capacity for when demand picks up again. If output falls more than their resources, the output – input ratio will have changed and productivity will have fallen.

What is the impact of productivity growth on other macroeconomic objectives?

- **Unemployment:** In the short run productivity growth can increase structural unemployment as workers are displaced. Real wage (or classical) unemployment will fall if labour markets are deregulated. Residual unemployment may fall as a result of changes to the tax and transfer system. Cyclical unemployment will fall as a result of economic growth.

- **Inflation:** Cost-push inflation will fall as a result of a more efficient allocation of resources. Imported cost-push (or tradable inflation) inflation will also fall as a result of increased trade and foreign investment. Demand-pull inflation will not occur if aggregate supply increases at the same rate as aggregate demand.

Student Activity 16.2

1. Complete the following table about the aggregate production function model.

a)	What information is shown on an aggregate production function?	
b)	Why is the aggregate production different from the production possibility frontier?	
c)	What law governs the shape of the both the aggregate production function and the production possibility frontier?	
d)	How can an aggregate production function be used to show the importance of productivity growth?	

2. What macroeconomic problems arise in an economy when an increase in aggregate demand is not matched by an increase in aggregate supply?

3. Explain why labour productivity may fall during the downturn stage of the business cycle.

16.3 WHAT FACTORS LEAD TO THE GROWTH OF THE ECONOMY'S LEVEL OF POTENTIAL OUTPUT?

What are the three Ps of economic growth?

The 'three Ps' of economic growth refer to three important factors that increase the quantity and quality of labour resources in the economy. They are population, participation and the labour productivity of labour. The rate of growth in the working age population, changes in the labour force participation rate and the rate at which labour productivity is growing affect the rate of growth in an economy's potential output. Given the downward trend in the participation rate resulting from the retirement of the baby-boomers, the remaining two Ps become more important.

Time period	Average growth rate (%)	Growth in population of working age (%)	Change in participation rate (%)	Change in labour productivity (%)
Past 40 years	3.3	1.7	-0.2	1.8
Next 40 years	2.7	1.3	-0.2	1.6

Source: Intergenerational Report, Treasury 2010

What else contributes to growth in potential output?

Other factors that contribute to the growth in potential output include new business investment and investment in public infrastructure, gains in the human capital of the workforce (e.g. education and training) and productivity gains arising from a more efficient allocation of resources, economies of scale and advances in technology.

Student Activity 16.3

1. What are the 3Ps of economic growth? Rank these in order of their likely contribution to economic growth in Australia over the next decade?

2. Identify three other factors that contribute to the growth in the level of Australia's potential output?

16.4 WHAT FACTORS AFFECT THE LEVEL OF PRODUCTIVITY?

There are a number of factors that influence the level of productivity in the economy.

Increase in quality of resources	Improved use of resources
• Improvements in human capital, e.g. through better education, training, skills, experience, health care. • Increase in the number of skilled migrants. • Greater levels of motivation linked to better management and improved rewards and incentives, e.g. through changes in the tax system. • Technological progress embodied into production processes, through increased investment and technology transfer from multinational corporations. • Improvements in transport and communications infrastructure. • Research and development.	• More deregulated, competitive markets where there is no market failure e.g. in product markets and the labour market. • Freer international trade and a rise in trade intensity leads to static and dynamic gains such as economies of scale. • Increased level of foreign direct investment. • Improvements in the country's institutional framework e.g. legal, financial, political.

What is the government's role in promoting productivity?

The government can influence the level of productivity by intervening less in areas where free markets maximise welfare and intervening more in areas where free markets create deadweight loss. The trick is to understand when government intervention is appropriate and when it is not. The government, therefore, needs to be both:

- **Market orientated:** Create conditions, where appropriate, that allow markets to work efficiently and to reduce or fix up government failure.
- **Interventionist:** Provide public and merit goods and, where appropriate, regulate to prevent or fix up market failure.

What is the case for less government intervention?

The case for less government intervention (and hence an increase in the use of markets) includes the following areas of government failure.

- **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 action (or inaction).
- **Rent-seeking behaviour:** Governments are often 'captured' by interest groups (e.g. farmers, car makers 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.

What is the case for more government intervention?

The case for more government intervention (and hence a decrease in the use of markets) includes the following areas of market failure.

- **Public goods:** Non-rival, non-excludable goods are not provided in a free market due to free riders. Infrastructure (e.g. roads, broadband) is an important example of a public or quasi-public good that boosts productivity.
- **Merit goods and positive externalities:** Free markets under-supply merit goods. Education services and health care are examples of merit goods that make an important contribution to productivity growth.
- **Demerit goods and negative externalities:** Free markets over-supply demerit goods. Resources used to make demerit goods are misallocated.
- **Tragedy of the Commons:** Unregulated use of common access resources leads to their exploitation and eventual destruction.
- **Monopoly power:** Monopolists, if unregulated, can distort markets by restricting supply and increasing prices.
- **Information Gaps:** Markets only allocate resources efficiently when prices fully reflect marginal cost and marginal benefit. If there are information gaps it may be impossible to calculate the appropriate costs and benefits.

Is there a name for these policy measures?

Economic reform is the umbrella term for a wide range of policy measures that aim to improve economic efficiency. These policy measures are also referred to as microeconomic reforms (MER) or supply-side measures because they focus on increasing efficiency in separate parts of the total economy, such as individual markets and industries.

Which recent reform measures have been market orientated and which ones have been interventionist?

Area	Examples	Type
Product market reform (P)	Competition Policy Deregulation Privatisation Research and innovation	Market orientation Market orientation Market orientation Interventionist
Infrastructure development (I)	Transport (e.g. road, rail) Communications (NBN) Education reform Health care reform	Interventionist Interventionist Interventionist Market orientation
Labour market reform (L)	Wage bargaining Power of trade unions Penalty rates Minimum wage	Market orientation Market orientation Market orientation Market orientation
Overseas market reform (O)	Free trade agreements Foreign investment	Market orientation Market orientation
Tax and Transfer reform (T)	Direct tax rates Exemptions to GST Welfare payments Tax on carbon	Market orientation Market orientation Market orientation Interventionist

Student Activity 16.4

1. Distinguish between market-orientated and an interventionist supply-side policy measures.

2. Explain two reasons why, in the absence of market failure, government intervention is likely to reduce productivity.

3. Describe three situations where an increased use of market forces could lead to an increase in market failure and deadweight loss.

4. Identify three supply-side measures announced recently by the Australian government. Classify each measure as i) market-orientated or interventionist, and ii) according to PILOT classification. Identify how the measure affects the level of productivity.

Policy measure	'PILOT' classification	Market or interventionist?	How it improves productivity?

16.5 EXAMPLES OF RECENT ECONOMIC REFORM MEASURES

What are the main areas of labour market and industrial relations reform?

In 2005 the Howard Coalition government introduced a range of labour market and industrial relations reforms that became known as ‘WorkChoices’. They were market-orientated reforms designed to make labour markets more flexible through deregulation, decentralisation and a reduction in the influence of trade unions. The Rudd/Gillard/Rudd Labor government (2007 to 2012) repealed most of the WorkChoices legislation. In 2015 a Productivity Commission report supported measures that imitated those contained in WorkChoices.

Measure	Example measures	Productivity effect
Wage bargaining process	Allow individual workplace agreements Change enterprise bargaining arrangements Simplify award conditions	Pay linked to productivity Pay linked to individual circumstances
Minimum wage	Change way minimum wage set (Fair Pay commission or through National Wage Case)	Pay linked to productivity
Workplace rights	Abolish penalty rates (e.g. for weekends) Change leave entitlement Change conditions for fair/unfair dismissal	Through rewards and incentives
Union rights	Change involvement in pay bargaining Place restrictions on allowable industrial action Mandate secret ballots Limited access to the work place	Influence on wage costs Disruption of production process
Migration	457 visas	Skilled labour supply increases

Student Activity 16.5

1. Describe how productivity could be improved by labour market and industrial relations reform measures.

2. Explain who would oppose a reintroduction of ‘WorkChoices’ style reform measures and why they would find these measures unpopular?

16.6 TAXATION REFORM

What steps have been taken to reform the tax system?

The Henry Tax Review in 2010 recommended 138 changes to Australia's tax system. The Labor government, mindful that 2010 was an election year, announced that only a handful of the recommendations (e.g. a 'super profits' or resource rent tax for mining companies) would be introduced in their next term in office although others could be considered in the future. The Coalition government repealed the mining tax (officially called the Minerals Resource Rent Tax or MRRT) and the carbon tax during their first year of office. At the same time they found reducing the government budget deficit a difficult task, due to their spending promises and a fall in taxation revenue (e.g. from company tax and income tax). A further tax review was to be conducted during 2015.

What are some of the changes to the tax system that are being discussed?

Measure	Examples of changes	Productivity effect
Reductions in direct tax rates	Lower marginal rates for income tax Reform tax brackets	Greater incentive to work
	Lower company tax rate	Makes rates competitive with other countries in the region
	Reduce tax concessions within the superannuation system	Raises revenue for government to spend on public and merit good
	Abolish negative gearing (e.g. for investment properties)	Distorts pattern of investment
Expand GST revenue	Broaden base of GST to include food and education	Distorts food market Raises extra tax revenue to allow direct tax cuts
	Raise the rate of GST	Raises extra tax revenue
Tax economic rent	Tax the economic rent (or excess profits) of resource producers	Reduces level of investment in resource sector
Tax multinational corporations	Apply tax at place of production rather than in 'tax havens'	Raises extra tax revenue
Tax carbon emissions	Introduce an emissions trading scheme	More efficient allocation of resources. Reduces deadweight loss of climate change.

What are the principles of taxation?

There are a number of principles (or canons) that are used to judge a tax system.

- **Equity (fairness):** There are two dimensions to fairness. Horizontal equity means people with the same ability to pay tax pay the same amount of tax and vertical equity means people with a higher ability to pay should pay proportionately more tax.
- **Efficiency:** Taxes should not harm the performance of the economy
- **Simplicity:** Tax should not impose high compliance costs on the taxpayer. Simple taxes allow the taxpayer to understand the tax implications of their decisions and are relatively cheap for the government to collect.

More recently three further principles have been added:

- **Coherence:** The link between the tax systems and the payment of transfers (e.g. social security benefits) should be streamlined.

- **Competitive:** Australian tax rates (e.g. company tax) should be in line with those in other countries
- **Sustainability:** Taxes should be capable of providing enough tax revenue, now and in the future, to meet government spending commitments.

Student Activity 16.6

1. Describe how productivity could be improved by taxation reform.

2. Explain who might oppose taxation reform and what their objections to taxation reform might be.

3. Outline the principles of taxation by which taxation reform should be assessed.

16.7 Trade liberalisation and Foreign Direct Investment

Why does trade liberalisation and foreign investment improve productivity?

Both Coalition and Labor governments have been keen to promote free trade and to encourage inflows of foreign investment. Static gains from trade arise from an improved allocation of resources because resources are used in a more productive way. Dynamic gains of trade include cost savings from economies of scale and the impact of higher levels of competition. Foreign investment provides additional finance for purchasing capital goods, and promotes technology transfer and improved work practices.

Area	Examples	Productivity
Free trade	Trade agreements with Japan, Republic of Korea and China	Static gains (more efficient allocation of resources) Dynamic gains (e.g. competition and economies of scale)
Foreign direct investment	Qantas Chinese	Technology transfer Work practices Economies of scale

Student Activity 16.7

1. Why do free trade agreements promote improvements in productivity?

2. Why does inwards foreign direct investment lead to a rise in productivity in Australia?

3. Explain who might oppose free trade agreements and what their objections to the agreements might be.

4. Explain who might oppose inwards foreign direct investment and what their objections to the foreign investment might be.

16.8 PRODUCT MARKET REFORM

How does the government control anti-competitive behaviour?

The Australian Competition and Consumer Commission (ACCC) is an independent body with a mandate to protect consumer rights, business rights and obligations, perform industry regulation and price monitoring and prevent illegal anti-competitive behaviour. The framework for its operations is the *Competition and Consumer Act 2010* (previously named the *Trade Practices Act 1974*). The Act applies to both the public and the private sector.

Is Australian business over-regulated?

While some regulations are beneficial others impose high compliance costs on households and businesses. The Hawke/Keating Labor government over thirty years ago set about deregulating export controls on a range of mineral and agricultural goods, financial markets and transport services including air travel. Other regulations such as building codes, controls over chemicals, food laws and childcare regulations remained in spite of a great number of reviews. During the six years of Rudd/Gillard/Rudd government, Labor introduced at least 4300 major new regulatory measures together with thousands of minor changes and amplifications to existing regulations. The Abbott government planned a renewed assault on regulatory costs aiming to cut \$1 billion a year in red and green tape. The proposed measures include streamlining planning approval processes, simplifying paperwork and an annual 'bonfire' of regulations. Since the Hawke initiative there has been a considerable reduction in economic regulations such as price controls, tariffs, monopoly supply arrangements and privatisation but these have been offset by increases in social regulations concerning the environment, workplaces and safety.

Area	Examples	Productivity
Deregulation	Environment Workplaces Safety Planning	Saving compliance costs More flexibility
Competition	Banking Airlines Supermarkets	Competitive pressure Variety Control of anti-competitive behaviour
Privatisation	Medibank Private Australian Submarine Services Hospital services	Better management Market incentives Natural monopolies

Student Activity 16.8

1. Identify, with the help of examples, the three general themes of product market reform.

2. Using a micro-economic diagram demand and supply diagram, explain why regulations add to production costs and cause deadweight loss.

3. Outline the principles of taxation by which taxation reform should be assessed.

16.9 OTHER AREAS OF ECONOMIC REFORM

Investment in infrastructure

Area	Examples	Productivity
Transport	Gateway to Perth (airport to city) Train line to Perth Airport Light rail Port facilities in Pilbara	Reduced transport costs Reduced travel time promotes exports
Communications	Broadband	Reduction in business costs Increase in competition

Investment in human capital

Area	Examples	Productivity
Education	National Curriculum Deregulation of university fees Reform and expansion of vocational education and training (TAFE)	Improves future quality of labour resources
Health	Reduced overlap between Federal and State responsibilities Co-payment (price) for visiting GP	Avoids duplication – more efficient use of resources Reduction in unnecessary demand

Research and innovation

Area	Examples	Productivity
Research	Funding of CSIRO Funding of universities Merge smaller bodies into larger ones Cut red tape in applying for funding	Technological progress Less duplication Better allocation of funds
Innovation	Partnerships between government, business and universities	Technology built into capital goods

Student Activity 16.9

1. Explain how each of these areas of economic reform contribute to productivity growth.

SO YOU NOW THINK YOU UNDERSTAND MEASURES TO IMPROVE PRODUCTIVITY

Define the term 'productivity'	Five areas where economic reform has taken place 1 2 3 4 5
Two types of productivity 1 2	Five areas where labour market and workplace relations reform is (or has been) needed (plus examples) 1 2 3 4 5
Law of diminishing marginal returns (or increasing costs) What is it?	Six principles to guide tax reform 1 2 3 4 5 6
What is its significance? Sketch aggregate production function model.	Four areas where tax reform is (or has been) needed (plus examples) 1 2 3 4
Two way relationship between growth and productivity 1 2	Two areas where reform of international or overseas is (or has been) needed (plus examples) 1 2
The '3Ps' that cause economic growth 1 2 3	Three areas where reform in product markets is (or has been) needed (plus examples) 1 2 3
Three other factors that contribute to growth 1 2 3	
Definition of 'economic reform measures'	
Two types of measure 1 2	Two way relationship between growth and structural change 1 2
When should reform measures be interventionist? When should reform measures be market-orientated?	

REALITY CHECK

Chapter 16: Measures to Improve Productivity

1. In an aggregate demand and aggregate supply diagram, productivity growth as a result of successful economic reform would cause which of the following changes?
 - (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 and to the right.
 - (d) The aggregate supply curve would shift up and 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 2013 and 2016. In which year is labour productivity highest?

	Year	GDP (\$b)	Hours worked
(a)	2013	1,000	10,000
(b)	2014	1,100	10,500
(c)	2015	1,200	11,000
(d)	2016	1,300	11,500

4. Which one of the following is LEAST likely to have contributed to a fall in labour productivity during the mining boom?
 - (a) The 'Resources Curse' because income growth was achieved without the need to increase productivity.
 - (b) The 'Dutch Disease' because the appreciation of the exchange rate led to a fall in output in the manufacturing and service sectors.
 - (c) There is a time lag between investment in the mining sector and increased levels of mining output.
 - (d) A rise in foreign direct investment in the mineral and energy sector involves.
5. Which one of the following statements is correct?
 - (a) Investment in producer or capital goods always increases multi-factor 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) Increasing the amount of capital available to each member of the workforce leads to an increase in labour productivity.
6. Which of the following is NOT an example of economic reform?
 - (a) Changes in incomes tax involving an increase in tax thresholds and a decrease in marginal tax rates to reduce the overall burden of direct tax.
 - (b) A free trade agreement between Australia and China.
 - (c) A reduction in cash rates by the Reserve Bank to stimulate consumption and planned investment.
 - (d) An increase the number of training courses supplied by TAFE colleges.

7. Which one of the following is the most likely negative outcome from 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 structural unemployment.
 - (d) Higher consumer prices as a result of increased cost-push and demand-pull pressure.
8. Which of the following outcomes will result from an increase in productivity?
- (a) Slower growth and higher inflation.
 - (b) A fall in unemployment to a level that is 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 government spending on transport infrastructure.
10. Which one of the following principles of taxation emphasises the importance of productivity growth?
- (a) Vertical equity.
 - (b) Efficiency.
 - (c) Simplicity.
 - (d) Sustainability.

Question Discuss how economic reform measures can contribute to an increase in both productivity and living standards in Australia. [20 marks]	
Overall scaffold	Body paragraphs
Key terms / Definitions	
Diagrams / models	
Evaluation / Conclusion	

TRIAL TEST 1

AUSTRALIA AND THE GLOBAL ECONOMY



Time allowed:	180 minutes	Section 1 – Multiple Choice	24 marks
Total marks:	100 marks	Section 2 – Short Answer	36 marks
		Section 3 – Long Answer	40 marks

Section 1 – MULTIPLE CHOICE (24 marks)

Attempt all questions from this section. Each question is worth 1 mark.

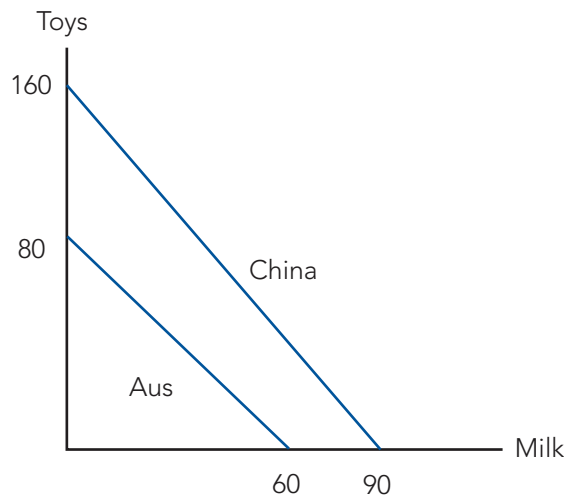
- Which one of the following reduces the level of international competitiveness of Australian manufacturing industries?
 - Lower unit wage costs in Australia.
 - An increase in multi-factor productivity in Australia's manufacturing industries.
 - An inflation rate in Australia below that of Australia's main trading partners.
 - An appreciation of the Australian Dollar.
- Which of the following provide evidence of Australia's increased participation in the global economy?
 - An increase in Australia's trade intensity or trade openness.
 - A rise in the number of multinational companies producing products in Australia.
 - An increase in non-resident or foreign skilled workers employed in Australia.
 - A reduction in the volatility of the value of the Australian Dollar.
 - IV only.
 - II and III only.
 - I, II and III only.
 - All are correct.
- Assume Australia and New Zealand form a trading bloc where there are no tariffs on trade between Australia and New Zealand, there are common external tariffs set for trade with other countries and an agreement to allow unrestricted movement of people between Australia and New Zealand. What is the correct term for this type of trading bloc?
 - A Preferential Trade Area.
 - A Customs Union.
 - A Common Market.
 - An Economic and Monetary Union.
- Which of the following results from the globalisation of the Australian economy?
 - Australian consumers benefit from consuming products made more efficiently overseas.
 - An increase in revenue for the Australian Government from tariffs and import licences.
 - A decrease in the level of structural unemployment.
 - A fall in the level of foreign investment into Australia.

5. The question refers to the table 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.
6. 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.
7. 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.

8. Assume the Australian Government wishes to protect Australian car producers. Which one of the following forms of protectionism will result in the lowest price for Australian consumers of cars?
- Tariffs.
 - Subsidies.
 - Quotas.
 - Local content laws.
9. Which of the following is least convincing as an explanation of changes in the pattern of Australia's trade in recent years?
- The Asia-Pacific region has achieved higher rates of economic growth than Europe.
 - The discovery of, and production from, major natural gas reserves in Australia.
 - Higher transport costs that have given Australia a disadvantage when exporting to the Asia-Pacific region compared with Europe.
 - China has become a more significant participant in world trade.
10. Which of the following best describes the composition of Australia's trade?

Top 2 exports categories	Top 2 import categories
(a) Manufacturing, agricultural products	Consumers goods, capital goods
(b) Manufacturing, agricultural products	Manufactured goods, intermediate goods
(c) Resources, services	Manufactured goods, intermediate goods
(d) Resources, services	Consumer goods, capital goods

11. Which of the following financial flows is recorded in the financial account of the balance of payments?
- Foreign investment.
 - Interest repayments on borrowings from overseas.
 - Trade in goods.
 - Trade in services.
12. Which of the following will occur in Australia as a result of a fall in commodity prices?
- A rise in the terms of trade and a deficit on the financial account of the balance of payments.
 - A decrease in the net goods account of the balance of payments, and a fall in the terms of trade.
 - Depreciation in the exchange rate value of the Australian dollar, and a rise in the terms of trade.
 - A fall in world prices for minerals and an appreciation of the Australian dollar.
13. Which of the following is most likely to result from a fall in Australia's terms of trade?
- An appreciation of the Australian dollar.
 - Narrowing of the current account deficit.
 - Stronger economic growth in Australia.
 - A fall in real incomes in Australia.
14. 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?
- The sum of price elasticity of demand for exports and imports.
 - The rate of inflation in Australia.
 - The relative level of interest rates.
 - Whether the change is caused by export prices or import prices.

15. 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.

16. 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)
2014	5	120	140	75	100	0.65
2016	3	180	165	100	80	1.10

Based on the data in the table, which one of the following happened between 2014 and 2016?

- (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.
17. Which of the following correctly describes the effect 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.
18. 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 fall 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.
19. 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.
20. 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

21. 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.
22. 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.
23. 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 10 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.
24. 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 increases labour productivity and hence workers' incomes
 - (d) It reduces the terms of trade.

Section 2 – SHORT ANSWER (36 marks)

Answer ALL THREE (3) questions. Each question is worth 12 marks.

25. 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]
- (iii) Define the term 'services' and give an example of a financial inflow into Australia that would be classified as services. [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. [6 marks]

26.

The decline in manufacturing has been going on for a long time. It's not something that has just happened in this downturn, during this period of a high exchange rate. In every major downturn jobs have been lost in manufacturing. Yes, we have lost a lot of jobs recently but this loss of jobs in manufacturing has been occurring steadily for the past 40 years.

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 The Age

- (a) Explain why parts of Australian manufacturing industry have become relatively uncompetitive over the last few years.

[3 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?

[6 marks]

27.

The Trans-Pacific Partnership (TPP) is a comprehensive trade agreement that aims to expand trade and investment between the TPP countries. The first round of TPP negotiations was held in Melbourne in March 2010. Currently, there are 12 negotiating parties: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Vietnam. These countries have a total population of 798.5 million people, and a combined GDP of USD \$27.75 trillion equal to 37.5% of global GDP). 32.6% of Australia's total trade is conducted with the TPP countries. According to the a recent TPP statement, when implemented, the TPP will forge close links among the economies, enhance competitiveness, benefit consumers and support the creation and retention of jobs, higher living standards, and the reduction of poverty in our countries.

- (a) What is a 'trading bloc'? What kind of trading bloc is the Trans-Pacific Partnership likely to 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.

[4 marks]

- (c) Explain why the benefits Australia would get from membership of the Trans-Pacific Partnership might be less than those hoped for by the Australian Government.

[6 marks]

Section 3 – LONG ANSWER (40 marks)

Answer two questions. Each question is worth 20 marks.

28.

- (a) Describe some of the important aspects of economic activity in which national 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]

29.

- (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]

30.

- (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]

31.

- (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]

END OF TEST (100 MARKS)

TRIAL TEST 2

ECONOMIC POLICIES AND MANAGEMENT



Time allowed:	180 minutes	Section 1 – Multiple Choice	24 marks
Total marks:	100 marks	Section 2 – Short Answer	36 marks
		Section 3 – Long Answer	40 marks

Section 1 – MULTIPLE CHOICE (24 marks)

Attempt all questions from this section. Each question is worth 1 mark.

- 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 rise in cyclical unemployment and a fall in cost-push inflation.
 - An increase in economic growth and a fall in the labour force participation rate.
 - A rise of the price level and economic growth.
 - A fall in cyclical unemployment and a fall in demand pull inflation.
- Which one of the following is most likely to be a feature of an economy in an economic recovery?
 - An increase in the structural budget deficit.
 - A rise in bankruptcies forcing firms to go out of business.
 - A rise in hours worked.
 - A fall in cash rates.
- Which of the following is a counter-cyclical indicator (i.e. one that moves in the opposite direction to the economy)?
 - The consumer price index.
 - The participation rate.
 - Energy and concrete production.
 - The unemployment rate.
- Which of the following is most likely to cause an upward shift in the consumption function in the Australian economy?
 - A rise in the Federal Government budget deficit causing an increase in sovereign debt.
 - A fall in median house prices and instability on the Australian Stock Exchange.
 - Increased fear of unemployment due to closures in manufacturing industries.
 - A fall in interest rates and a rise in consumer sentiment.
- Which one of the following will shift the investment demand curve to the right?
 - Economic recovery in Japan and a free trade deal with China.
 - The fall in the level of investment in the mining industry.
 - A rise in the real rate of interest.
 - 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:
- the economy is in disequilibrium and the amount of income earned in the next period will increase.
 - the economy is in disequilibrium and the amount of income earned in the next period will decrease.
 - the economy is in equilibrium and there will be no change in the level of income in the next period.
 - 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:
- income to fall by \$40m and the level of aggregate savings to fall by \$100m.
 - income to fall by \$40m and the level of aggregate savings to fall by \$40m.
 - income to fall by \$100m and the level of aggregate savings to fall by \$40m.
 - income to rise by \$167m and the level of aggregate savings to rise by \$40m.
8. Assume the Keynesian expenditure multiplier is 3 and the government reduces direct taxation by \$100m. The final change in economic activity caused by the tax cut, other things being equal will be:
- \$50m.
 - \$100m.
 - \$150m.
 - \$200m.
9. The equations of the consumption function and investment function in an economy are as follows: $C = 1000 + (0.8) Y$, $I_p = 250$. The size of the Keynesian expenditure multiplier coefficient will be:
- \$5000.
 - \$2000.
 - 0.2.
 - 5.
10. Which of the following is **NOT** an explanation of the negative or inverse relationship between aggregate demand and the price level? As the price level in Australia rises:
- taxation revenue increases and the level of government spending falls.
 - the real value of Australian household income and wealth falls.
 - interest rates in Australia fall causing the exchange rate to fall.
 - exports from Australia become increasingly uncompetitive on overseas markets.
11. Which of the following is correct?

	Change in the economy (Other things being equal)	Impact on aggregate demand	Impact on aggregate supply
a)	\$100m extra exports of iron ore to Korea	Increase	Decrease
b)	\$100m new government spending on transport infrastructure	Increase	Increase
c)	Deregulation of the labour market	Little impact	Decrease
d)	A rise in imported cost push inflation	Increase	Decrease

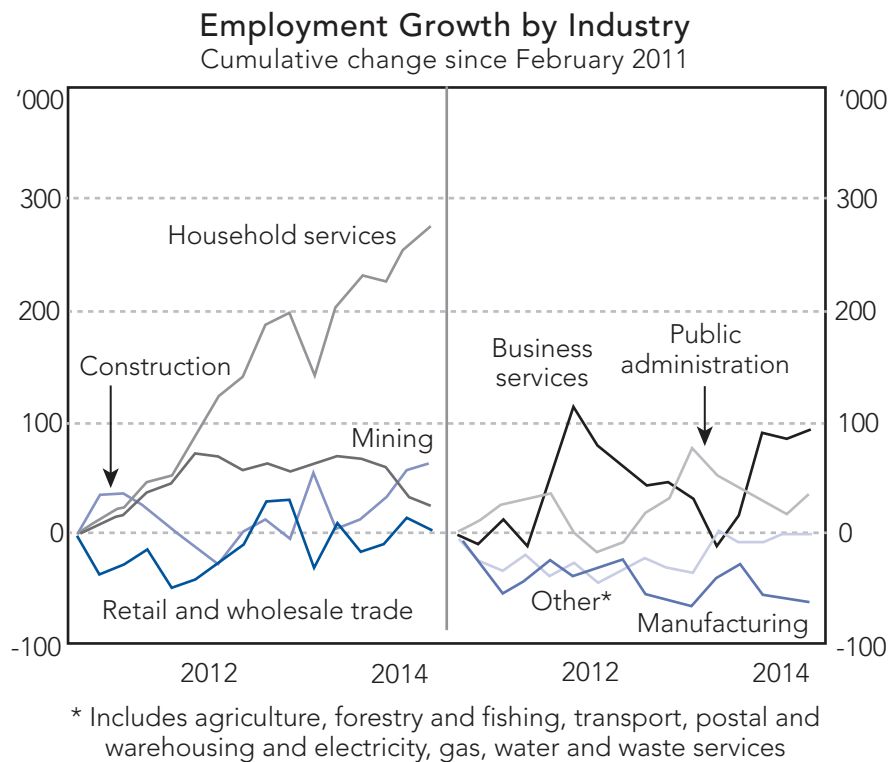
12. When the economy's long-run aggregate supply (LRAS), short-run aggregate supply (SRAS) and aggregate demand (AD) curves intersect at a single point this represents a level of economic activity where:
- (a) economic growth is at the economy's trend growth rate.
 - (b) it is in long-run macroeconomic equilibrium.
 - (c) the level of unemployment is below the natural rate of unemployment.
 - (d) the inflation rate is within the RBA target range.
13. 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.
14. Which of the following statements about unemployment is FALSE?
- (a) It is possible for the economy to achieve unemployment below the non-accelerating inflation level of unemployment (NAIRU).
 - (b) Frictional and structural unemployment contribute to the natural rate of unemployment in the economy
 - (c) The most significant cost of unemployment is the opportunity cost of government spending on unemployment benefits and retraining programmes
 - (d) People who are unemployed for short periods while they change jobs are said to be frictionally unemployed.
15. 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.
16. If the Reserve Bank feels that inflation is well under control, but that economic growth is lower than the potential rate of growth, it may decide it is appropriate to use:
- (a) a contractionary monetary policy and decrease the cash rate.
 - (b) an expansionary monetary policy and decrease the cash rate.
 - (c) a contractionary monetary policy and increase the cash rate.
 - (d) an expansionary monetary policy and increase the cash rate.
17. 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.
18. 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.

19. 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.
20. 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.
21. 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.
22. Which of the following is the objective of microeconomic 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.
23. Which of the following is an example of dynamic inefficiency?
- (a) A firm does not produce its products at the minimum cost possible.
 - (b) The government denies a firm a subsidy needed by the firm to stay internationally competitive.
 - (c) A firm is unable to export its products because of the absence of a free trade agreement.
 - (d) A firm misreads the market and is left with surplus stock.
24. Structural change is an on-going process in the economy. Which one of the following is NOT an explanation of this process?
- (a) Patterns of demand change over time as new products emerge and replace old ones.
 - (b) Invention and innovation brings in new technologies to production methods.
 - (c) Changes in exchange rates alter relative levels of international competitiveness.
 - (d) Governments seek to manage aggregate demand to achieve their macroeconomic objectives.

Section 2 – SHORT ANSWER (36 marks)

Answer ALL THREE (3) questions. Each question is worth 12 marks.

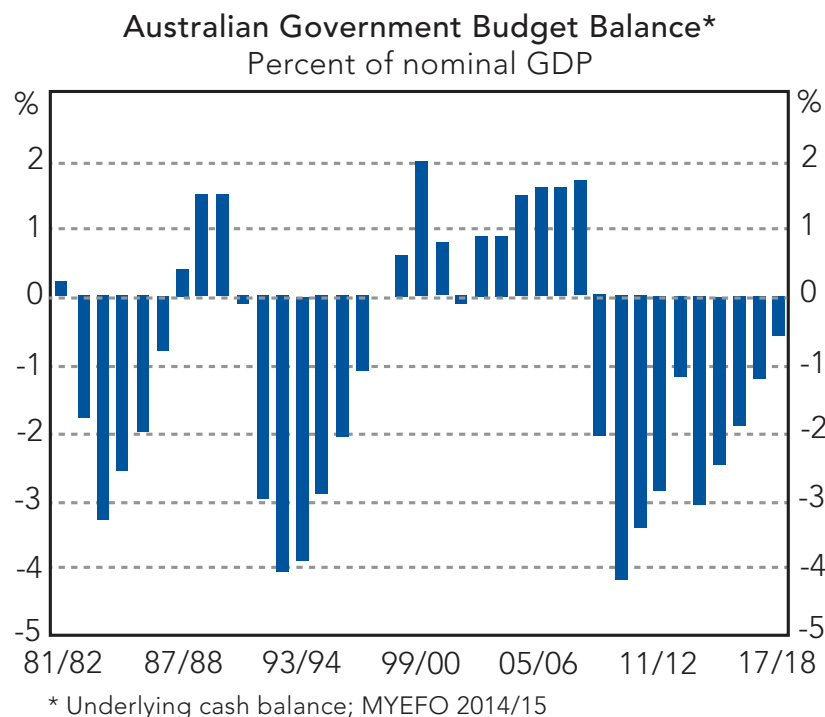
25.



Source: ABS

- (a) (i) Estimate the cumulative loss in employment in the mining industry during 2014. [1 mark]
- (ii) In which industry sector was cumulative employment growth between 2011 and 2014 strongest and in which industry sector was it weakest? [1 mark]
- (b) Describe three reasons for the growth in employment in household services during the period covered in the chart. [5 marks]
- (c) Explain three consequences of the decline in output and employment in the high volume low value manufacturing. [5 marks]

26.



- (a) (i) State the size of the budget balance as a percentage of GDP during 2013-14. [1 mark]
- (ii) Describe the government's intended budget stance during the period 2014-15 to 2017-18. [1 mark]
- (b) Describe two factors that will make it hard for the government to return the budget to surplus after 2017-18. [4 marks]
- (c) Explain two advantages and two disadvantages of achieving a budget surplus soon after 2017-18. [6 marks]

27.

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. [4 marks]
- (c) Using data from the table, examine the relationship between the level of growth, inflation and unemployment during this period. [6 marks]

Section 3 – LONG ANSWER (40 marks)

Answer two questions. Each question is worth 20 marks.

28.

- (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]

29.

- (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]

30.

- (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]

31.

- (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]

END OF TEST (100 MARKS)



ANSWERS TO STUDENT ACTIVITY QUESTIONS

1 – GLOBAL INTERDEPENDENCE

1.1

1. *Reduced economic significance of national borders*
2. *See text*
3. (a) Trade (b) Foreign Direct Investment (c) Capital and financial markets (d) Shared culture and ideas (e) Policy coordination (f) Movement of people (g) Broadcasting and information (h) Currency.
4. *My suggestions: Agriculture 8; Services 5; Travel 9; Trade in manufactures 8; Investment 8; Finance 9; Migration 3.*
5. (a) 5.25% (b) 3% (c) More important – growth in exports faster than growth in size of world economy (d) Impact of the GFC – countries resorted to protectionism to protect employment levels (e) Positive relationship – trade leads to a more efficient allocation of resources, growth increases demand for products.

1.2

1. *Boeing can take advantage of specific areas of competitive advantage around the world. Transport costs are now relatively low.*
2. *Produced in Australia from local and imported ingredients.*
3. *It is much cheaper to source jeans from low cost producers.*
4. *Quality of product, transport costs, technological developments (to keep the milk fresh), rising incomes in China.*

1.3

1. *See text.*
2. *See text.*

1.4

1. *The benefits of globalisation would be lost (see text for key points) but the disadvantages would be avoided (see text for these points).*
2. *People who benefit are those that embrace globalisation and are able to compete internationally. People who become structurally unemployed (e.g. car workers) do not share in the benefits because the firm they work for is uncompetitive.*

1.5

1. (a) Fall (b) Rise (c) Fall (d) Fall.
2. *More competitive in areas such as wine (or other agricultural industries), high-end low volume manufacturing (such as medical equipment), services (e.g. education) but less competitive in high volume low value manufacturing (e.g. clothes, cars), and some services (e.g. air travel).*
3.
 - (a) *Lack of economies of scale (too many products, low level of output), high unit wage costs (e.g. due to labour market regulation and relatively low labour productivity), government subsidies were to be withdrawn.*
 - (b) *Sales of imported vehicles, marketing, service and spare parts.*
 - (c) *Suppliers of parts or components will lose orders from Ford. A loss of incomes leads to a fall in consumption and income elsewhere in the economy.*
 - (d) *Retraining courses, information, relocation subsidies, relocating government departments to Geelong.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question (a) Describe four factors that have supported the process of global interdependence. [8 marks] (b) Explain the economic effect of increased global interdependence. [12 marks]	
Overall scaffold PART A Introduction Causes of interdependence PART B Advantages of interdependence Disadvantages of interdependence Conclusion	Body paragraphs PART A Introduction – definition, topical comment Development of International institutions (e.g. WTO) Regional trade agreements (e.g. Australia and China) Changes in business strategy (e.g. global value chains) Technological change (e.g. containerisation, internet) PART B Emphasis on increased trade and foreign investment (other areas could be considered) Advantages More efficient use of resources, hence increased growth capacity Rising living standards, reduction in poverty Increase in choice for consumers Finance (saving) can move to most profitable projects Cultural awareness / improved international relations Disadvantages Structural change and unemployment Trade diversion (from countries excluded from free trade agreements) Loss of economic sovereignty Contagion, problems spread around the world Integration not uniform, e.g. in less economically developed countries Exploitation of resources by multinational corporations Tax avoidance by multinationals Evaluation / Conclusion Dangers in generalising (different groups affected in different ways) Non-economic factors to be considered Short-term problems but longer term gains
Key terms / Definitions Global interdependence	
Diagrams / models Gains from trade (e.g. consumer surplus and producer surplus model)	

2 – FREE TRADE

2.1

1.

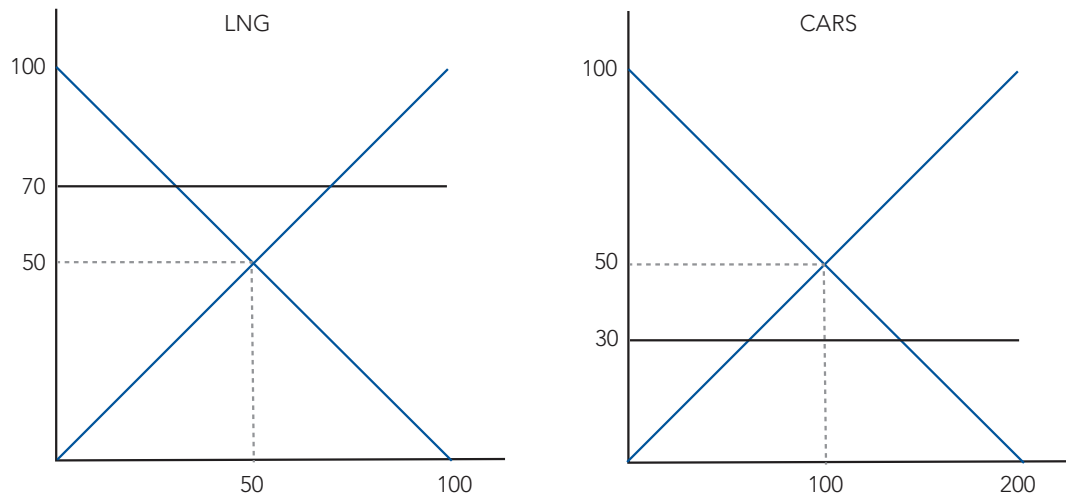
- (a) *To improve resource efficiency, allow it to increase the size of its gas industry and to allow its consumers a wider choice of products from around the world.*
- (b) *$200 \text{ (Exports + Imports / GDP)} \times 100$. Very open – living standards in the economy depend entirely on the terms of trade (the ratio of the price they receive for gas and the average price of what they pay for their imports).*

2.2

1. *Static gains result from an improved allocation of resources. Dynamic gains come after specialisation of production has taken place, e.g. because industry can now benefit from economies of scale or producers are forced to match the quality of products made by international competitors.*
2.
 - (a) (i) *LNG \$50, 50 units; Apples \$50, 100 units.*
 - (ii) *Consumer surplus = \$1250 (area of triangle = half base $\times$ height = 25×50), Producer surplus = \$1250; Community surplus = \$2500.*

(iii) *Consumer surplus = \$2500; Producer surplus = \$2500; Community surplus = \$5000.*

(b)



(c) *LNG: Consumer surplus = \$450, Producer surplus = \$2450, Community surplus = \$2900;*

Apples: Consumer surplus = \$4900, Producer surplus = \$900, Community surplus = \$5800;

(d) *Risen from \$7500 to \$8700.*

(e) *Exports = $\$70 \times 70 = \$4900$, Imports = $\$30 \times 140 = \$4200$, Balance of trade = surplus of \$500.*

3.

(a) *International trade and foreign investment.*

(b) *See diagrams in text – gain in consumer surplus from importing commodities, gain in producer surplus from exporting toys.*

2.3

1.

	With tariff protection	Without tariff
Price paid by consumers	Higher	Lower
Quantity of goods bought by consumers	Lower	Higher
Consumer surplus	Lower	Higher
Producer surplus	Higher	Lower
Government tariff revenue	Higher	None
Community surplus	Lower	Higher

2.

(a) *Rises from Q2/Q3 to Q1/Q4.*

(b) *Falls by area D.*

(c) *Rises by areas A+B+C+D.*

(d) *Falls by area B to zero.*

(e) *Rises by triangles A and C.*

3. *See diagram in text. Gain from trade is the area of the two triangles.*

2.4

1.

(a)

	Opportunity cost of 1 sword in terms of lost gold	Opportunity cost of gold in terms of lost swords
Camelot	1	1
El Dorado	4	0.25

(b)

	Output of swords	Output of gold
Camelot	200	0
El Dorado	0	400
Total	250	400
Gain in total output from specialisation	100	100

(c) See text.

2.

(a) Show the pattern of production in each country after specialisation and trade based on comparative advantage.

	Coffee	MWs
Vietnam	48	0
Japan	0	36
Total	48	36

(b) 4 units of coffee in Vietnam, 0.5 unit of coffee in Japan.

(c) Determines the pattern of specialisation. Resources are used efficiently.

(d)

	Coffee	MWs
Vietnam	$48 - 24 = 24$	$0 + 6 = 6$
Japan	$0 + 24 = 24$	$36 - 6 = 30$
Total	48	36

(e) Japan. For Vietnam the terms of trade were the same as the internal production trade-off between MWs and coffee. It is just as efficient to make MWs themselves.

(f)

	Coffee	MWs
Vietnam	28	10
Japan	20	$36 - 10 = 26$
Total	48	36

(g) Terms of trade allow both countries to gain.

(h)

	Coffee	MWs
Vietnam	$48 - 9 = 39$	$0 + 18 = 18$
Japan	$0 + 9 = 9$	$36 - 18 = 18$
Total	48	36

(i) The terms of trade are not favourable to Japan. They are equal to the internal production trade off between MWs and Coffee within Japan.

3.

(a) China has a comparative advantage in toys. Australia has a comparative disadvantage in toys. Comparison of opportunity cost; b) Australia has a comparative advantage in raw materials. China has a comparative disadvantage in raw materials.

(b) Comparison of opportunity cost.

(c)

	Toys	Raw materials
China	128	0
Australia	0	192
Total	128	192

(d)

	Toys	Raw materials
China	$128 - 120 = 8$	$0 + 60 = 120$
Australia	$0 + 120 = 120$	$192 - 120 = 72$
Total	128	192

(e)

	Toys	Raw materials
China	$128 - 120 = 8$	$0 + 45 = 90$
Australia	$0 + 120 = 120$	$192 - 90 = 102$
Total	128	192

(f) Allocation of resources to areas of efficient production. The terms of trade determine how the gains are distributed between countries.

2.5

1.

(a)

	Honey	Fruit
Thule	$40 - 20 = 20$	$0 + 20$
Agartha	$20 + 20 = 40$	$120 - 20 = 100$
Total	60	120

(b) Between $1H = 0.5F$ and $1H = 2F$.

2.6

1. (a) 2 fish (b) 3 fish.

(c)

	Hut production in 180 hours	Fish output in 180 hours
Captain	9	18
Hook	4	12
Total	13	30

(d)

	Hut production	Fish output
Captain	$15 = 9 \times 1.66r$	6 (to get total to 30)
Hook	0	$24 = 2 \times 12$
Total	15	30

2.

(a) Both.

(b)

	Opportunity cost of 1 bicycle	Opportunity cost of 1 kg of butter
Australia	3 kg of butter	0.33 of a bicycle
China	2 kg of butter	0.5 of a bicycle

(c) Therefore, China should specialise in bicycles and the UK should specialise in butter.

(d)

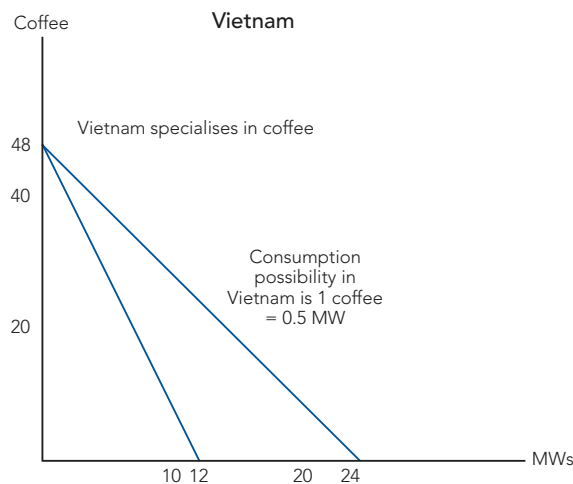
	Production of bicycles in 60 hours	Production of butter in 60 hours
Australia	4	12
China	15	30
Total production	19	32

(e)

	Production of bicycles	Production of butter
Australia	0	24
China	25	10
Total production	25	34

2.7

1.



Repeat for Japan.

2. (a) 2 cheese = 1 car.
(b) 2 cheese.
(c) More.
(d) Line goes from 30 cars/0 cheese to 0 cars/75 cheese.
(e) What is the gradient of the UK PPF? 3 cheese = 1 car.
(f) 0.33 cars.
(g) More (more / less) than 0.33 cars for each ton of cheese.
(h) Line goes from 24 cheese and 0 cars to 0 cheese and 9.6 cars.
(i) Between the gradients of the two PPFs.

2.8

1. Iron ore – resource endowment, technical expertise, economies of scale; Wheat – climate, knowledge, economies of scale; Medical equipment – innovators, highly intelligent researchers and developers, small scale of production.
2. Cars – lack of economies of scale, expensive labour, labour market regulation; Electrical goods – lack of economies of scale, expensive labour, labour market regulation; Airlines – subsidies paid to other carriers (e.g. Emirates), poor management, limits on foreign ownership.

2.9

1. Fall in unit costs as the scale of a firm's production increases. Trade allows firms to expand production.
2. Compared to a monopoly, competing firms supply more products to the market and at a lower price.
3. Wine. Australian wine producers export wine and Australian consumers import wine. There are many other possibilities.

ESSAY WIZARD - ESSAY PLAN SUGGESTION

Question Describe how countries gain from international trade. [14 marks]	
Overall scaffold Introduction – indicator of gain Static gains Dynamic gains Conclusion	Body paragraphs Introduction – define international trade / explain how gains are measured. Static gains from more efficient allocation of resources based on comparative advantage. Provide and explain at least one model. Dynamic gains from competition Dynamic gains from economies of scale Dynamic gains from improved international relations Dynamic gains from wider variety of available products Dynamic gains from reduced administrative costs
Key terms / Definitions International trade Static gains Consumer surplus Producer surplus Comparative Advantage Opportunity cost Dynamic gains Economies of scale	
Diagrams / models Consumer surplus and producer surplus OR Gains from a reduction in tariffs OR Theory of Comparative Advantage calculation based on hypothetical output or input data OR Production possibility frontier	
	Evaluation / Conclusion Dynamic gains probably more important than static gains Trade affects different groups in different ways Issues of structural change Non-economic (STEEPLE) factors (e.g. security of supply)

3 – PROTECTIONISM

3.1

1. *See text.*
2. *See text.*
3.
 - (a) *Increase incomes, keep of disease. (b) Embargo (zero quota).*
 - (c) *Microeconomic diagram show big fall in supply (shift to the left).*
 - (d) *Alternative forms of protection could be production subsidies or tariffs, amongst other possibilities.*
4.
 - (a) *Mix of tariffs and quotas (tariff rate quotas).*
 - (b) *Production subsidies, various food standard regulations.*
 - (c) *Restricted entry into these markets and more competition in other markets, plus administrative and compliance costs.*

3.2

1. *Use the diagram to calculate the following:*

a)	The size of the tariff (in \$ or %)	\$10 or 40%
b)	The free-trade level of imports	80 (100 – 30)
c)	The loss of consumer surplus	$950 = (10 \times 80) + (30 \times 5)$
d)	The gain in producer surplus	$400 = (10 \times 30) + (20 \times 5)$
e)	The government's tariff revenue	$300 = (10 \times 30)$
f)	The reduction in the level of imports	50
g)	The deadweight loss caused by the tariff	$250 (950 - (400 + 300))$
h)	The size of the tariff needed to eliminate imports	\$15

2. *Result will be a big drop in imports.*

3.3

1. *Left = consumers' gain from subsidy; Centre = producers' gain from subsidy; Right = Deadweight loss from subsidy.*
2. *Producers willingness to supply increases – they are able to stay competitive for a bigger level of output.*
3. *When there are some positive externalities to consider (e.g. a reduction in structural unemployment or a local multiplier effect)*
4.
 - (a) \$4
 - (b) \$5
 - (c) 45
 - (d) $5 \times 45 = 225$
 - (e) 26
 - (f) $5 \times 26 = 130$
 - (g) 5
 - (h) 5

3.4

1. *A quota has a similar impact to a tariff on the domestic market. The main difference is that the government receives no revenue from a quota (unless they sell import licences as a way of controlling the level of imports. Hence the deadweight loss of a quota will be bigger than that from a tariff.*

3.5

1. *See text.*
2. *Dumping occurs when an overseas producer exports excess supply to another country at unreasonable low prices. It is difficult to prove that prices are unfairly low, below the costs of production or the prices charged in the market where the production took place.*
3. *Boeing is an iconic firm with a big multiplier effect on associated industries. The US is retaliating against European subsidies to Airbus. Boeing might have strategic importance.*
4. *An industry in its growth stage and, therefore, at this stage, internationally uncompetitive because of the lack of 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.*
5. *The supply curve for domestic producers means the domestic equilibrium price is higher than the world price. A tariff can be used to lift the world price up towards the domestic price or a subsidy can be used to lower the domestic supply curve and bring the domestic equilibrium closer to the world price. Any short-run deadweight loss is offset by the long-term benefit of the industry when it matures. The domestic supply curve shifts down as producers become more efficient.*
6. *Sensitive industries can be iconic or emblematic, employ people who might not be able to get other work, or operate within a particular region. All protectionism causes deadweight loss but this might be offset by broader social and economic benefits.*
7. *It is difficult to say what is or what is not strategic. Your answer probably depends on how likely you think it is that international trade will be disrupted. Should we build our own submarines rather than import them from Japan? Is it the capacity to build and the skills that are of strategic importance?*
8. *Protectionism costs almost everybody in the economy a little bit each year (through the rise in the cost of living caused by trade barriers). Reducing protectionism for an industry costs a relatively small number of people a great deal (their job, hence their income). Sharing the burden may be equitable but it is economically inefficient.*

3.6

1.
 - (a) *Invalid – imports often provide component inputs for exports.*
 - (b) *Valid – but it difficult to judge when support should be removed.*
 - (c) *Valid – the reason for quarantine laws.*
 - (d) *Invalid – statement true but not a reason to restrict imports.*
 - (e) *Invalid – statement true but not a reason to restrict imports.*
 - (f) *Invalid – statement true but not a reason to restrict imports.*
 - (g) *Invalid – statement true but not a reason to restrict imports.*
 - (h) *Invalid – statement true but not a reason to restrict imports.*
 - (i) *Valid – anti-dumping tariffs are allowed by the World Trade Organisation.*
 - (j) *Invalid – factually incorrect.*
 - (k) *Invalid – attempts at price stabilisation through buffer stock schemes have only temporary success.*

- (l) *Invalid – the burden sharing arguments sounds good in the short term, but in the end protectionism slows growth and reduces employment.*
- (m) *Invalid – not a reason for protectionism.*
- (n) *Invalid – difficult to pick sensitive industries, governments may give in to vested interests.*
- (o) *Invalid – in the long term growth is reduced and employment falls.*
- (p) *Valid – for a few key industries (e.g. some legal services), generally we have to rely on our allies.*
2. *See text.*
- 3.
- (a) *In short-run structural unemployment may be reduced but in longer term demand-deficiency unemployment will rise as a result of slower growth and lower living standards.*
- (b) *Low labour costs are a source of competitive advantage for some countries (e.g. Bangladesh in making clothes). Reducing trade with these countries will not make the pay or living standards of the workers rise. Western companies buying these imports have Corporate Social Responsibility policies that have some influence on wages and conditions overseas.*
- (c) *The economy may need some help to rebalance the pattern of output after specialising (e.g. in Australia after the mining boom), but the replacement industries (e.g. green technology based products) will be different from the ones that would have received the protection (e.g. cars).*
- (d) *There are better ways to raise tax revenue than imports tariffs.*
- (e) *What is a ‘correct’ trade deficit? Better to ensure of our production is competitive than to limit what we import.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question (a) Describe how tariffs and subsidies can be used to reduce the level of imports. [8 marks] (b) Explain four reasons why countries continue to employ protectionist measures? [12 marks]	
Overall scaffold PART A Introduction – definitions, topical reference Describe impact of a tariff on imports Describe impact of a subsidy on imports PART B Define ‘protectionist measures’ General gains from trade Reasons for restricting trade Conclusion	Body paragraphs PART A Introduction – definitions, topical reference Draw and explain tariff diagram – show drop in imports Draw and explain subsidy diagram – show drop in imports Note costs of these measures PART B Define ‘protectionist measures’ Points could include: Protection of infant industries Protection against dumping Social and political pressure to protect sensitive industries Concept of burden sharing and the structural costs of transition Difficulty of negotiating multilateral trade agreements Quarantine restrictions, other health and safety measures
Key terms / Definitions Tariff Subsidy Protectionist measures Deadweight loss	
Diagrams / models Tariff diagram Subsidy diagram	Evaluation / Conclusion Comment on reasons that might be valid for some countries (e.g. tax revenue raising, shortage of foreign exchange, retaliation) Impact on stakeholders varies Short term cost versus long term gain Non-economic (STEEPLE) factors (e.g. political sanctions)

4 – AUSTRALIA'S PATTERN OF TRADE

4.1

1. Trade openness or trade intensity = $((\text{exports} + \text{imports}) / \text{GDP}) \times 100 = (650 / 1500) \times 100 = 43\%$.

2.

(a) The two aspects are direction of trade and composition of trade.

(b) China is Australia's biggest trade partner because of the complementary nature of the two economies. We have a comparative advantage in iron ore and coal and China needs iron ore and coal to help the process of industrialisation and urbanisation. China has a comparative advantage in producing mass-produced consumer goods such as cars and computers, products that are demanded by consumers in Australia.

4.2

1. Commodities are unprocessed, natural resources, e.g. wheat. Manufactured goods are processed products, e.g. cakes.

2. STMs are simply transformed manufactured goods, where only limited processing has been undertaken, e.g. single superphosphate, a fertiliser, is produced by reacting naturally occurring phosphate rock with sulphuric acid. ETMs are elaborately transformed manufactured goods. Products that can be recognised as a distinct product, such as TV set are ETMs.

3. It is more efficient to export the iron ore in an unprocessed state than undergo the processes involved in converting it to steel. Higher costs of production (e.g. labour costs, energy costs) make processing within Australia uneconomical.

4. About 60% of exports are unprocessed but only 10% of imports are unprocessed. While Australians lose out on the incomes generated by value adding and pay for the value adding done in other countries there would be a relatively high opportunity cost of attempting to add value here.

5. (a) Exports to China dominated by mineral and energy commodities, but exports to US more balanced. (b) China's economy is more complementary to Australia's than the US economy.

4.3

1.

a) Resources, about \$50b; b) Stable, high value of the AUD; c) Education and tourism, high quality providers, scenery and climate; d) Rose from \$8b to \$10b, rise in rural commodity prices, higher demand from China; e) Intermediate goods, some are used in the production of exports; f) Machinery and transport equipment, building capacity in the mining sector; g) Transport (business and pleasure) and professional services (e.g. accounting), quality, reputation and links to multinational businesses; h) Increased but at a slower rate, lower growth in incomes and fall in consumer confidence.

2. (a) A tree map is a way of showing data by dividing a rectangle (e.g. representing the total value of Australia's exports) into lots of sub-rectangles (e.g. representing different export products), with the area of each sub-rectangle determined by the percentage of total exports for each product.

(b) Examples of tree maps showing the direction of Australia's trade are shown in this Chapter. See tables below for top 10 exports and imports.

Australia's top 10 goods and services exports in 2013			
Rank	Commodity	Value (AUD million)	% share
1	Iron ore and concentrates	69,494	21.8
2	Coal	39,805	21.5
3	Education related travel services	15,020	4.7
4	Natural gas	14,602	4.6
5	Gold	13,897	4.4
6	Personal travel services (excl. education)	13,115	4.1
7	Crude petroleum	9,016	2.8
8	Wheat	6,085	1.9
9	Aluminium ores and concentrates	5,902	1.9
10	Beef	5,695	1.8

Australia's top 10 goods and services imports in 2013			
Rank	Commodity	Value (AUD million)	% share
1	Personal travel services (excl. education)	24,725	7.5
2	Crude petroleum	20,226	6.1
3	Passenger motor vehicles	18,292	5.6
4	Refined petroleum	18,230	5.5
5	Freight transport services	9,438	2.8
6	Telecom equipment and parts	9,068	2.8
7	Medicaments (including veterinary)	7,830	2.4
8	Computers	6,942	2.1
9	Passenger transport services	6,839	2.1
10	Good vehicles	6,436	2.0

4.4

1.

	Value of total trade \$b (2013)	Exports to	Total export percentage	Imports from	Total import percentage
China	150.9	101.5	30	49.3	18
Japan	70.7	49.5	20	21.2	8
United States	54.7	15.5	4	39.1	12
Republic of Korea	32.0	21.2	8	10.8	4
Singapore	27.0	9.2	2	17.8	6

2. UK, Germany, Thailand, Malaysia and New Zealand.

4.5

1. The chart shows; i) a rise in importance of China (rapid growth); ii) a fall in the importance of European Union countries (trade barriers, slower growth); iii) A fall in relative importance of United States (relatively slow growth); iv) dominance of Asia-Pacific region (high growth).

4.6

1.

- Iron-ore producers – endowment (comparative advantage), foreign investment, skilled workforce.
- Ferry producers – highly trained workers research, expertise, low-volume high value added.
- Architecture – skills, education system, culture.
- Dairy producers – endowment (climate), FTA with Korea and China, skills. There are other possibilities.

2.

- Car producers – lack of economies of scale, pay and productivity, free trade agreements.
- Cattle producers – embargos, geopolitical issues in Middle East, lobby groups.
- Education providers – racist attacks on students, distance, exchange rate.
- Dairy producers – tariffs export subsidies, quotas.

4.7

- Problems of boom/bust commodity price cycle. Opportunities to develop export markets for products now demanded by middle-class consumers in Asia. Growth could be increased through more processing of commodities. No point in trying to compete in low-cost, high volume manufacturing markets (in trying to out-widget China), but opportunities in high-end, low volume exports (such as yachts and medical equipment). What will happen to the value of the AUD?
- Continued dominance of commodity exports but also some growth in manufactured products and services. China and other south-east Asian countries will continue to be important trade partners.

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question Explain four factors that have led to changes in Australia's pattern of trade during the last decade. [14 marks]	
Overall scaffold Introduction – define pattern of trade Factor 1 – Commodity boom Factor 2 – Industrialisation in Asia Factor 3 – Rising incomes in Asia Factor 4 – Exchange rate Conclusion	Body paragraphs Introduction – define pattern of trade, topical comment about globalisation Factor 1 – Commodity boom – rise in mineral and energy prices (strong demand, inelastic supply) e.g. iron ore and coal Factor 2 – Industrialisation in Asia – cheaper manufactured products (e.g. clothes, electrical goods and cars) made Australian manufacturers uncompetitive Factor 3 – Rising incomes in Asia – change in nature of demand in Asia gave opportunity for higher-end exports (e.g. dairy, wine, tourism) Factor 4 – Exchange rate – Dutch Disease effect of a high exchange rate (Other factors possible e.g. economic reform allows Australia to produce niche manufacturing products and participate in global value chains, reduction in level of protectionism in Australia, or change consumer preferences as a result of travel and communications revolution)
Key terms / Definitions Pattern of trade Commodity boom Exchange rate Income elasticity	
Diagrams / models Microeconomic demand and supply diagram showing reason for rise in commodity prices OR Microeconomic demand and supply diagram showing rise in producer surplus and/or rise in consumer surplus from change in export and import prices	Evaluation / Conclusion On-going process as pattern demand and competitive advantage change

5 – BALANCE OF PAYMENTS

5.1

- Record of financial flows, in and out of Australia, over a period of time.
- 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.
- | | |
|------------------------------|-------------------------------|
| (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. |
-

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

5.
 - (a) *When the foreign exchange market is in equilibrium demand for the currency equals the supply of the currency. People demand AUDs from the currency market when money flows into Australia and is credited to the balance of payments accounts. People supply AUDs to the currency market when money flows out of Australia and is debited from the balance of payments accounts. As long as currency markets are in equilibrium demand must equal supply and credits must equal debits.*
 - (b) *+\$48.1. The overall balance of payments must sum to zero.*
6. *The two main accounts (current and capital and financial) can be in surplus or deficit, as can the various sub-sections within each of these accounts. It is these surplus and deficits that provide the interest in the balance of payments.*

5.2

1.
 - (a) *CA deficit of \$60b.*
 - (b) *CFA surplus of \$60b.*
 - (c) *It depends (e.g. on the cause of the CAD, whether it can be financed at acceptable interest rates, whether it is the result of government policies).*

5.3

1.
 - (a) *True – changes in the business cycle affect exports and imports.*
 - (b) *True.*
 - (c) *False – they reflect changes in the trade balance.*
 - (d) *True.*
 - (e) *False – e.g. 2010-11.*
 - (f) *False – substitute the word ‘narrowing’ for ‘improvement’ and it is correct.*

5.4

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 if price elasticities for exports and imports sum to more than 1, structural.*
 - (e) *CAD narrows, exports become more competitive, structural.*
 - (f) *CAD narrows, value-adding improves terms of trade, structural.*
 - (g) *CAD narrows, international competitiveness improves, structural.*
 - (h) *CAD widens, lack of supply in export market, shock.*

5.5

1.
 - (a) *\$50b.*
 - (b) *Financial Account.*
 - (c) *-\$50b.*
 - (d) *+\$50b.*
 - (e) *Rise in primary income outflows of interest, dividends and profits, increase in exports as a result of capacity building, increase in capital goods imports, change in exchange rate affects sales of exports and imports.*
2. *It is significant because it reflects inflows of foreign investment that increases the economy's potential GDP. It is sustainable because the economy develops the capacity to pay for the primary income outflow.*
3. *It is significant because it imposes a burden on the economy (through primary income outflows) and leads to a loss of economic sovereignty (through the sale of assets). It is unsustainable because a debt trap develops.*
4.
 - (a) *Imports greater than exports.*
 - (b) *Outflows for trade and income greater than inflows.*
 - (c) *Through borrowing or sale of assets.*
 - (d) *An increase in foreign liabilities.*
 - (e) *Foreign debt rises in the future as money is borrowed to pay interest on existing debt.*
 - (f) *Credits (demand) are less than debits (supply).*
 - (g) *Increases the cost of imports (but this may be offset by a fall in aggregate demand).*
 - (h) *Increase tax, reduce government spending, raise interest rates (through Reserve Bank).*
 - (i) *More inflows of foreign investment than outflows.*

- (j) *Investment (hopefully in productive capacity).*
- (k) *Because the accounts must balance – it leads to outflows of primary incomes and growth leads to increased purchases of imports.*
- (l) *Increases the capacity of the economy to earn foreign currency to finance the primary income outflow.*
- 5.
- (a) i) \$225b; ii) \$4.5b; iii) -\$39.8b; iv) -\$46.3b; v) -2%; vi) 2.58%; vii) 24.8b (must mirror current account deficit); viii) 195.7b (the sum of the current account deficits over the six years); ix) 23% (a reasonable level by international standards).
- (b) *Foreign liabilities lead to incomes outflows. Income outflows contribute to current account deficits, that in turn lead to more foreign liabilities. Debt service ratio is increasing in this economy.*
- (c) *Deflationary policies (e.g. budget surplus, higher cash rates) slow growth and increase unemployment. Supply-side economic reform policies needed to promote productivity and international competitiveness.*
- (d) *It depends on financing costs. When the economy grows the current account balance increases, so it is acting as a break on growth.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question Explain the causes and consequences of Australia's persistent current account deficit. [20 marks]	
Overall scaffold Introduction – definition and topical comment Cause - Investment-savings gap Cause – Expenditure-production gap Consequence – value of foreign investment Consequence - Foreign liabilities Conclusion	Body paragraphs Introduction Investment-savings gap (resource rich but capital starved, need to import savings) Expenditure- production gap (explain cyclical, structural and shock factors on AD and GDP) Consequence – advantages from inflow of foreign investment (See Ch. 8) Consequence is rise in foreign liabilities (explain that accounts must balance) Problems of rise in foreign debt (See Ch. 8) Problems of rise in foreign ownership (See Ch. 8) Problems of depreciation in exchange rate (See Ch. 7) Conclusion
Key terms / Definitions Current account Deficit (outflows>inflows) Investment-savings gap Expenditure-production gap Foreign liabilities	
Diagrams / models PPF – showing consumption outside frontier	Evaluation / Conclusion Few problems in 'normal' economic conditions.

6 – TERMS OF TRADE

6.1

1. See text

2.

	Export price index	Import price index	Terms of trade index	Value of exports (\$b)	Value of imports (\$b)	Balance of trade (\$b)
2010-11	95.9	97.9	98.0	271.6	279.8	-8.2
2011-12	100	100	100	317.2	319.2	-2.0
2012-13	90.0	99.6	90.4	302.3	321.0	-18.7
2013-14	93.3	106.0	88.0	331.1	338.8	-7.7

3.

(a)

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

(b) *The ratio of export prices to import prices is 0.85:1. Average export prices are about 12% lower than average import prices.*

4.

(a) *i) 6 TVs; ii) 100 tonnes; b) i) 3 TVs; ii) 200 tonnes*

5.

(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 number 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.*

6.

(a) *Improvement; (b) Improvement; (c) Improvement; (d) Worsening; (e) Worsening.*

6.2

1. *Draw inelastic supply curve. Draw two demand curves to show an increase in demand for iron ore. Show rise in equilibrium price of iron ore. This improves the terms of trade.*

2. *Draw an AD/AS diagram. Add a new AS curve up and to the left of the original AS curve. Show the rise in the price level (i.e. inflation). This will also lead to an improvement in the terms of trade (if not a welcome one).*

3.

(a) *What is happening in the individual markets for Australia's main export and import products; b) What is happening to AD and AS and hence the overall price level in the economy; c) The further value of the Australian Dollar.*

4. *See text.*

5. *See text.*

6.3

1. *(a) 2%; (b) 3%; (c) 3.5%.*

2. *Real data is adjusted for inflation using the implicit price deflator index.*

3. *We make lots of decisions based on current income and prices, rather than making adjustments for inflation beforehand. Tax is levied on nominal values (in Australia income tax brackets are not automatically adjusted for inflation as in many other countries).*

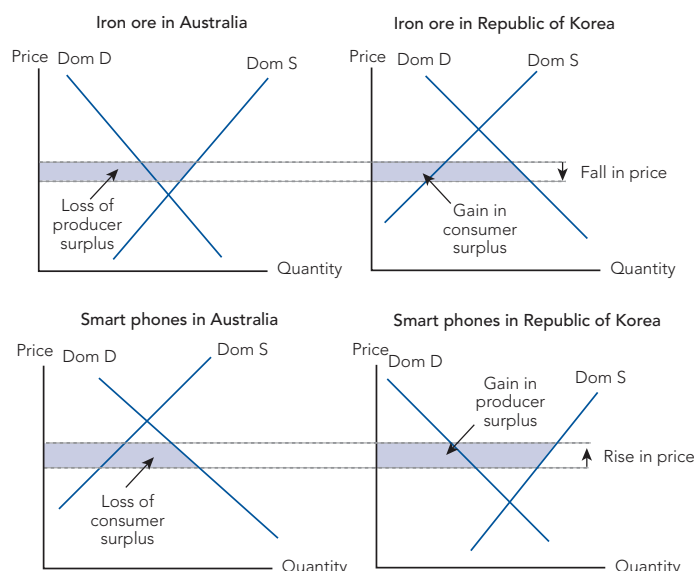
4. *Output is measured as real GDP (adjusted for inflation) while income and profits vary as prices change.*

5. *'National' measures the economic output of Australian owned producers wherever they are located. Domestic measures the economic output in Australia regardless of the country of ownership of the producers.*

6. *The fall in the terms of trade reduced the incomes earned by producers. Foreign ownership meant that there was an outflow of primary incomes from the economy.*

6.4

1.



- (a) Australia's terms of trade fall. Republic of Korea's terms of trade rise.
 (b) Some gains from trade redistributed from Australia to Republic of Korea.

2.

- (a) Before trade Australia produces and consumes 100 units of rice and 75 TVs and Thailand produces and consumers 75 units of rice and 100 TVs. Show this information in the table below.

Pre-trade	Rice	TVs
Australia	100	75
Thailand	75	100

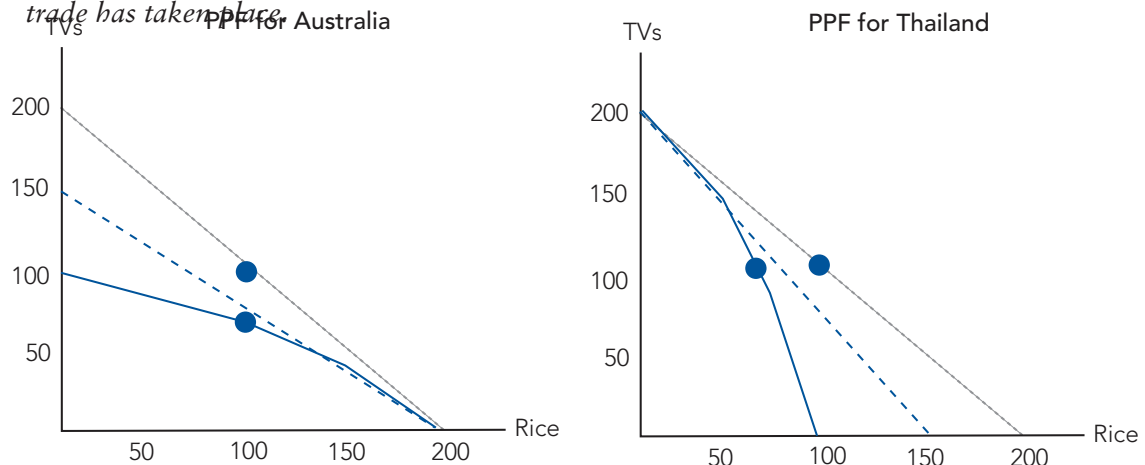
(b)

After specialisation	Rice	TVs
Australia	200	0
Thailand	0	200

(c)

After trade (1 unit of rice = 1 TV)	Rice	TVs
Australia	100	100
Thailand	100	100

- (d) Constant returns to scale; Homogenous output; No transport costs or other barriers to trade; Resources mobile – can transfer to other industry.
 (e) Add a consumption possibility line for each country on the diagrams at the start of the question for terms of trade 1 unit of rice = 1 TV and show the consumption point after specialisation and trade has taken place.



Grey dashed line shows 1 rice = 1 TV; Blue dashed line shows 1 rice = 0.75 TV.

- (f) Economies of scale; Competition; Better international relations.
 (g)

After trade (1 unit of rice = 0.75 TV)	Rice	TVs
Australia	100 (67)	75 (100)
Thailand	100 (133)	125 (100)

- (h) GDP has stayed the same in both countries (output is still 200 unit of rice in Australia and 200 TVs in Thailand). Real national income has fallen in Australia (income only buys 100 units of rice and 75 units of rice) and real income has risen in Thailand (income now buys 100 units of rice and 125 TVs). The change in the terms of trade has caused a redistribution of the gains from trade.

6.5

1. Draw a relatively inelastic (steep) demand curve. Show that a fall in price leads to only a small increase in sales. Show reduced revenue box on diagram.
 2. Need to know what causes terms of trade to change (i.e. export price and/or import prices) and

whether prices changes due to rising demand or restricted supply. Need to be aware of pattern of trade as well.

3.

(a)

	Australia's exports	Price elastic or inelastic?		Australia's imports	Price elastic or inelastic?
a)	Mineral commodities	Inelastic	a)	Intermediate goods	Inelastic
b)	Rural commodities	Inelastic	b)	Capital goods	Inelastic
c)	ETMs	Elastic	c)	Consumer goods	Elastic
d)	Services	Elastic	d)	Services	Elastic
e)	Overall average	Inelastic	e)	Overall average	Inelastic

(b) *Impact of high exchange rate, inflow of foreign investment, outflow of interest, dividends and profits offset trade effect. Higher incomes led to increase in imports.*

4. *AD shifts to the right, AS shift down and to the right. The impact on the price level is difficult to predict. But there will be a rise in real GDP.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question (a) Explain the concept of the terms of trade and describe and account for recent movements in Australia's terms of trade. [8 marks] (b) Explain the consequences of a fall in Australia's terms of trade. [12 marks]	
Overall scaffold PART A Introduction – definition and meaning Rise to record levels during mining investment boom, now below this level Reasons for change PART B Domestic economy consequences External economic consequences Conclusion / Evaluation	Body paragraphs PART A Introduction – definition and meaning Describe rise and fall of terms of trade with rise and fall in mining investment. Quote data or extent of change. Explain reasons for change (e.g. commodity prices, growth in China, fall in price in electrical and consumer goods, rise in exchange rate) PART B Explain domestic impact mainly falls on national income (change in value of exports without a change in production (GDP)) Explain change in income indirectly affects consumer and business confidence (and hence planned investment and consumption) Discuss multiplier effect of rise in AD Describe external impact on exchange rate Describe external impact on balance of trade
Key terms / Definitions Terms of trade Balance of trade Concept of an income recession	
Diagrams / models Use consumer and producer surplus models to show impact of lower import prices on consumer surplus and higher export prices on producer surplus.	Evaluation / Conclusion Incomes also affected by degree of foreign ownership and outflow of interest, dividends and profits.

7 – EXCHANGE RATES

7.1

1. Value of a currency expressed in terms of one or more other currencies.
2. Bilaterally (in terms of one other currency) or multilaterally (in terms of an average value of several currencies)
3.
 - (a) AUD 22,222 (20,000/0.9).
 - (b) AUD 1 = USD 0.75.
 - (c) Appreciated.
 - (d) AUD 80.
 - (e) AUD 70.
4.
 - (a) PPP exchange rates are actual or market rates adjusted for the difference in the price level in the two countries.
 - (b) Renmimbi is undervalued.
 - (c) Probably not – the Law of One Price only operates if buyers and sellers can move easily between the two countries. Also the Chinese Government controls the value of the Renmimbi.
5.
 - (a) Trade Weighted Index.
 - (b) Top three in the table, China, Japan and US.
 - (c) Trade between the two countries fell. The total trade target of 90% had been reached with the 20 biggest trading partners.
 - (d) More trade between Australia and Malaysia – weight was increased from 3.23 to 3.46; e) Weights based on trade with specific countries rather than the use of a specific currency.

7.2

1.
 - (a) Shift D1 to the right – increase in inwards portfolio foreign investment – exchange rate appreciates.
 - (b) Shift D1 to the left – exchange rate depreciates.
- 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 rates	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 affected by changes in values of other currencies.
 - (b) Policies of other Governments and Central Banks beyond our control.
 - (c) Path of Australian dollar erratic.
 - (d) Commodity prices influence value of Australian Dollar and commodity prices are relatively unstable.

7.3

1. Commodity prices and the terms of trade; relative interest rates; the risk environment.
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 become the same in both countries. People will buy where the product is relatively cheap, increasing demand and causing the price to rise. The high value of the Australian Dollar in during the mining investment boom encouraged people to buy imported goods on one, reducing demand for Australian made goods and causing their price to fall.

4.

- (a) Demand for commodities is price inelastic. A rise in price leads to higher export earnings. Foreign investment was needed to finance an increase in the capacity in the mining sector. Speculators anticipate these factors, adding to inflows of foreign portfolio investment; b) A rise in US interest rates (other things being equal) reduces the interest rate differential between US and Australia. Investors may move into US dollar securities to take advantage of the higher rates and a 'safer-haven' for their money.

5.

Event	Impact on the Australian dollar
Fall in the rate of growth in China	Fall – Weaker commodity prices
50% fall in the price of oil	Fall - Rise in risk environment
Fall in Australia's terms of trade	Fall – Weaker commodity prices
Stronger growth in the US economy	Fall – Potential rise in US interest rates
Expectations of a rise in US interest rates	Fall – Rise in US interest rates
Economists suggest next cash rate move in Australia will be in a downward direction	Fall - Reduced interest rate differential
Economic stimulus measures put in place by European Central Bank	Rise – More growth, lower value of Euro
Fear that new government in Greece will leave the Euro Zone	Rise – Uncertainty about future value of Euro

6.

- (a) Where the risk of losing some or all of their money is low (no bank failures, no chance of government defaulting on its debt problems, low level of volatility in financial markets). Draw a demand and supply diagram for the currency, showing a fall in demand or increase in supply leading to a lower exchange rate.
- (b) The puzzle was that the exchange rate did not respond to falling commodity prices and expected changes in relative interest rates as expected and remained above its fundamental or equilibrium rate for most of the year.
- (c) Australia is certainly a safer haven than some emerging commodity producing countries (e.g. the fragile five) but, despite our strong banking system and relatively low government debt, Australia is not considered as safe as the US, Japan (surprisingly) and UK.
- (d) Exchange rates do not move in predictable ways. Momentum trading can cause currencies to under- or over-shoot their equilibrium levels.

7.4

1.

- (a) Cheaper capital goods imports, products sold in USD but loss of profits when revenue exchanged for Australian Dollars.
- (b) Cheaper capital goods imports, bulk products sold in USD but loss of competitiveness where products priced in AUD.
- (c) Cheaper components and capital goods but priced out of export markets.
- (d) Cheaper consumer prices but may have lost their job.

- (e) Cheaper fuel and capital goods, but priced out of market.
2. Your choice – in general firms able to do well if demand for product was inelastic and they were able to cut costs by raising productivity or sourcing components from overseas.
 3. Complete the following table.
 - (a) 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 – the car makers have announced the end of car production in Australia – high wage costs and low volumes on top of the 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.

7.5

1.
 - (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 if more sectors of the economy are competitive.
 - (g) Demand-deficiency or cyclical unemployment will fall if growth increases.
2. Draw AD/AS diagram showing (a) shift in AD to the right and (b) upward movement in AS.
3. Holland experienced the Dutch Disease when they began producing and exporting oil. Their currency rose in value and made other sectors in the economy uncompetitive. The mining investment boom has a similar effect on the Australian economy

7.6

1. Most industries (with mining being the exception) found it difficult to be competitive when the exchange rate was close to parity with the US Dollar (or above a nominal TWI of 70). About 10% of consumption spending was on imported goods bought on-line.
2. The RBA suggest that AUD 1 = USD 0.75 is an appropriate rate. Without commodity prices and relatively high interest rates holding up the value of the Australian dollar it should move to a level that allows growth to be rebalanced across the across a broader area of the economy.

ESSAY WIZARD - ESSAY PLAN SUGGESTION

Question	
(a) Describe the factors that determine the demand and supply of the Australian Dollar? [10 marks] (b) Explain the relationship between a change in the exchange rate and structural change in the economy? [10 marks]	
Overall scaffold PART A Introduction Trade, income and investment flows Short, medium and long term factors affecting these flows PART B Change in exchange rate affects different sectors in different ways Growth in one sector may affect exchange rate	Body paragraphs PART A Introduction – definition, topical comment Credit flows in balance of payments generate demand for currency (i.e. exports, income inflows, investment inflows) Debit flow in balance of payments generate supply of the currency (i.e. imports, income outflows and investment outflows) These flows are affected by short term factors (speculation), medium term factors (terms of trade, relative interest rates, risk environment) and a long term factor (Law of One Price)
Key terms / Definitions Exchange rate Demand for currency Supply of currency Balance of payments Terms of trade Relative interest rates Risk environment Purchasing Power Parity Law of One Price Dutch Disease	PART B Two way relationship Impact of exchange rate change on sectors varies according to factors such as trade level, currency used, and ability to make productivity improvements. High dollar hit sales of high-volume low-value manufacturing, and services High dollar reduced profits for commodity producers Growth in mineral and energy industries led to rise in value of exchange rate (and led to Dutch Disease impact on manufacturing and services)
Diagrams / models Demand and supply diagram to show determination of exchange rate	Evaluation / Conclusion Consider short term and long run effects Within each sector different firms affected in different ways Businesses can avoid impact of exchange rate changes by hedging, keeping funds offshore and diversification.

8 – FOREIGN LIABILITIES

8.1

1. *A little below \$850b (750b + 100b). Foreign liabilities rise when Australia has a current account deficit.*
2. (a) \$450b; (b) \$2,675b; (c) \$750b; (d) 94%
3. (a) *Borrowing and sale of assets.*
 (b) *Foreign Debt and foreign equity.*
 (c) *A flow over time.*
 (d) *Financial Account.*

8.2

1. *Nil – Australia has a net positive value of foreign equity, mainly due to rising values of overseas shares owned by superannuation funds.*
2. *About \$875b, or 55% of GDP.*
3. *Australian companies buy businesses and property overseas or invest in shares in overseas.*
4. *Harder to borrow money from overseas banks, no commitment to pay dividends to shareholders if profits are low.*

8.3

1. (a) *To finance our investment-savings gap.*
 (b) *Because aggregate expenditure is greater than GDP.*
 (c) *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.*
2. *Australia is resource rich and capital starved. There is a relatively high demand for capital goods (e.g. oil rigs and ports) and a relatively low level of national savings (by companies, households and government).*

8.4

1. *Net foreign debt and net foreign equity.*
2. *See text. All the indicators suggest Australia's debt is well below IMF benchmarks for problem-*

debtor countries. Foreign investors continue to be happy to lend us money and to invest in Australia. The exchange rate of the value of the Australian Dollar has remained relatively strong.

3. (a) See text.
- (b) The debt makes us more vulnerable in a financial crisis.

8.5

1.

- (a) Increases aggregate demand – it provides an injection into the circular flow.
- (b) Increases aggregates supply, e.g. through technology transfer and productivity growth.
- (c) Increases competition and provides opportunities for economies of scale.
- (d) Raises tax revenue allowing increased spending on public and merit goods (e.g. education, health, transport infrastructure).
2. Fall in cyclical unemployment because of higher growth, but imbalanced growth may lead to rise in structural unemployment.
3. More economic activity generates more tax revenue (higher incomes, profits and spending). Multinational Corporations may be able to avoid tax (e.g. through transfer pricing) or may be granted preferential tax treatment by governments seeking to attract their investment.
4. Income outflows in the form of dividends and repatriated profits are only paid when investment is profitable. Direct investment is more stable than portfolio investment.
5. Interest has to be paid on debt regardless of state of the economy. Debt has to be constantly rolled-over or renewed.
6. FIRB makes recommendations to the Treasurer about suitability of foreign direct investment. Direct investment may be rejected if the Treasurer believes it is not a commercial venture and may not be in the national interest.
7. Other things being equal country of origin should not be a factor. There is more concern about investment from countries with strong sovereign wealth funds or higher levels of government involvement in their economy.

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question (a) How does foreign investment affect financial flows in the current account of the balance of payments? [8 marks] (b) Discuss the advantages and disadvantages of foreign direct investment in Australia [12 marks]	
Overall scaffold PART A Introduction – define terms Describe links to current account PART B Define FDI – topical comment Advantages of FDI Disadvantages Conclusion - evaluation	Body paragraphs PART A Introduction Outflow of primary income (interest, dividends and profits) Capital goods likely to be imported Investment creates capacity and competitiveness to increase exports Inflow increases value of AUD – affects both exports and imports Investment increases incomes which increase consumption imports PART B Introduction – define terms, topical comment about level of popular attention Advantages Helps close investment-savings gap Injection of investment leads to growth, higher incomes and multiplier effect Technology and work practices transfer Exploit economies of scale Disadvantages Outflow of primary incomes Loss of national economic sovereignty Top jobs maybe taken by non-residents Transfer pricing and tax avoidance MNCs may get special concessions from governments Sovereign Wealth Funds (owned by overseas governments) and Private Equity Firms may not operate business in national interest
Key terms / Definitions Foreign investment Current Account of balance of payments Foreign Direct Investment Multiplier	
Diagrams / models AD and AS model or PPF model to show impact of injection on growth and incomes Also diagram to show multiplier effect	Evaluation / Conclusion Dangers in generalizing about FDI (FIRB takes case by case approach) ST structural problems v longer term gains Non-economic (STEEPLE) factors

9 – BUSINESS CYCLES

9.1

1. *Change in output over time, above and below trend level, regular sequence of phases*
2. *Trend is the average growth in output achieved in previous years. Actual growth is the current rate of increase in output.*
3. *See diagrams in text.*

9.2

1. *Sequence is recovery, boom, downturn, slump, recovery and so on.*
2. *Shortages of skilled labour. congestion and bottlenecks in infrastructure such as ports and airports, higher inflation, higher tax payments.*
3. *Automatically through tax receipts and transfer payments and by making discretionary policy changes, e.g. by changing tax rates and changing the level of structural spending.*
4. *By making changes to the cash rate in anticipation of changes in the economy.*
5. *The domino or multiplier effect caused because income and spending spreads around the economy, changes in household and business confidence.*
6. *Consumption spending on necessities helps provide a floor to the cycle.*
7. *It is not easy to decide what is a necessity and what is a luxury purchase.*

9.3

1. *Inflation rises, unemployment falls. Consumer confidence rises, planned investment rises. Output gets smaller, injections rise and leakages fall. Cash rates rise, budget outcome improves.*
2. *Growth and participation rate is low. Discretionary consumption falls, trade deficit narrows because of a fall in imports. Output gap is large. Injections and leakages are equal at lowest turning point. Cash rates are low. Budget outcome deteriorates (low tax and higher welfare spending).*
3. *State whether the following data indicates previous, current or future economic performance?*

Unemployment rate	PREVIOUS LAGGING	Stock exchange indices	FUTURE LEADING
New car sales	CURRENT COINCIDENT	Rate of change in GDP	CURRENT COINCIDENT
Inflation rate	PREVIOUS LAGGING	Demand for electricity	CURRENT COINCIDENT
Purchasing managers' index (PMI)	FUTURE LEADING	Housing loan approvals	FUTURE LEADING

4. *In a boom there are more cranes to see (more construction), more concrete is produced, top of the range cars are in the showrooms and apparently hemlines rise and people wear their hair longer.*

9.4

1. *Unstable. Dip during Global Financial Crisis (2008-09). Slow recovery.*
2. *Your research probably suggests a) is not proven given GFC, b) is not proven because it is difficult to detect upper and lower turning points (textbooks say it is 7 years), c) probably true – easier to lose confidence than to rebuild it, d) not true (what stage are we in now?), e) Not true – we have not had a recession since 1991 (defined as two consecutive periods of negative GDP growth). Incomes dropped for two consecutive quarters at the end of 2014 due to changes in the terms of trade.*
3.
 - Slow recovery or downturn? Some growth but rising unemployment.*
 - Net exports, construction, retail sales are positive, mining investment and government spending are negative.*
 - Slower growth in China, deflation and recession in Europe.*
 - Record low cash rates (last changed in August 2013), government is trying to repair the budget deficit and reduce debt.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question Describe the causes of the business cycle and the effects of a downturn in the business cycle on inflation and unemployment, the Budget balance and balance of trade. [20 marks]	
Overall scaffold Introduction – definitions / topical comment (3 marks) Causes of cycle (3 marks) Characteristics of downturn (2 marks) Impact on inflation and unemployment (4 marks) Impact on Budget balance (4 marks) Impact on balance of trade (4 marks) Conclusion	Body paragraphs Introduction – definition of business cycle Causes of business cycle – changes to AD caused by shocks, cumulative processes, ceilings and floors, automatic stabilisation) Definition of downturn and recession Impact on inflation and unemployment - draw simple Phillips Curve diagram and/or use AD and AS diagram Comment on extent to which inflation falls and unemployment rises Define Budget balance – define and explain structural and cyclical budget balance Define and explain automatic fiscal stabilisation Discuss whether discretionary fiscal stimulus is appropriate Define balance of trade – explain why deficit on balance of trade narrows as a result of reduced level of imports and significance of size of marginal propensity to import Discuss possible impact on exports of downturn e.g. exporting because domestic market soft, not exporting because of low confidence
Key terms / Definitions Business cycle Downturn Inflation Unemployment Budget balance Balance of Trade	
Diagrams / models AD and AS diagram showing downturn OR Simple Phillips Curve OR PPF diagram OR Sketch of business cycle	
	Evaluation / Conclusion Short term v long term effects may vary Not everybody impacted in same way

10 – AGGREGATE EXPENDITURE

10.1

1. $C = \text{Consumption}$; $I_p = \text{Planned investment}$; $G = \text{Government spending}$; $X = \text{exports}$; $M = \text{Imports}$; $AE = \text{Aggregate expenditure}$.

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. $\$1075b (C + I_p + G + X - M)$

10.2

1. *See text.*

2. *The value of property, direct and indirect share ownership.*

3. *May encourage consumption by reducing the reward for saving. However, the rate cut may be interpreted as a sign of economic weakness and this will weaken consumer confidence.*

4. *It may encourage people to increase consumption to beat future price rises and because inflation reduces the real rate of return on savings. If inflation erodes consumer confidence consumption spending may fall.*

5. *Uncertainty and fear caused by, for example, rising unemployment, government policy changes, and overseas events.*

6. *Income is either spent on consumption or saved ($Y = C + S$).*

7. (a)

Disposable income (\$b)	Consumption (\$b)	Saving (\$b)	New consumption (\$b)	New savings (\$b)
0	60	-60	120	-120
100	120	-20	180	-80
200	180	20	240	-40
300	240	60	300	0
400	300	100	360	40
500	360	140	420	80
600	420	180	480	120

- (b) \$60b (the level of consumption when income is zero).
 (c) 0.6 (consumption rises by \$40b when income rises by \$100b).
 (d) Borrow or sell assets.
 (e) $C = a + bY$; $S = -a + (1-b)Y$.
 (f) $\$150b = a + bY$ or $60 + 0.6(150)$.
 (g) See diagram in text.
 (h) Shift in upward direction. Equilibrium is now \$300b.
 (i) Consumption function is flatter. This reduces the equilibrium level of income.

8.

- (a) Show fall (downward shift) in consumption function. Income falls.
 (b) Fall in consumer confidence and expectations. See text.
 (c) Falls, other things being equal.

10.3

1.

- (a) Rise; shift in ID to the right. (b) Fall, movement along ID.
 (c) Fall, shift in ID to the left. (d) Rise, movement along ID.
 (e) Rise, shift in ID to the right. (f) Fall, shift in ID to the left.
 2. Fall in global prices and hence reduction in profit; problems in obtaining planning permission; increase in taxes or royalties, increased cost of finance.
 3. See text
 4. Shift line showing rate of interest down. Investment in houses increases.
 5.
 (a) About 20%.
 (b) Fall in profits as a result of falling commodity prices, enough capacity to meet demand, slower growth in China.
 (c) Draw ID diagram with shift in ID curve to the left. Note, interest rates may have fallen as well during this period.

10.4

1. (a) Allocation of resources to public and merit goods (b) Regulation of markets (c) Redistribution of income (d) Management of aggregate demand.
 2. Social security and welfare, defence, health and education. About \$60b is redistributed to State and Territory Governments.
 3. Governments are worried about sovereign or government debt. Tax revenue has fallen as a result of relatively low levels of economic activity but they need to get their budgets back into surplus. Many programs are locked in and can't easily be changed. Spending cuts are politically unpopular.

10.5

1. It appears to be cyclical. The trade gap widened during the mining investment boom and then narrowed afterwards.
 2. Structural factors, cyclical factors and shocks. See text.
 3. Weak growth in Australia reduces imports, and strong growth overseas (promotes exports).
 4. Commodity prices (mineral, energy and rural) are relatively unstable compared to the prices of manufacturing goods.
 5.
 (a) Change in the exchange rate.
 (b) Fall in commodity prices and terms of trade.
 (c) Slow growth in wages combined with fall in labour productivity.
 (d) Free trade agreements with Republic of Korea, Japan and China.

10.6

1. $C + I_p + G + X - M$
2. When planned expenditure = income
3. (a) It shows the level of actual spending (but not planned spending). (b) It shows possible equilibrium points.
4. (a) The model can show a change in income, i.e. economic growth. (b) The closer equilibrium income is to full employment income (or capacity) the lower the level of cyclical unemployment. (c) The model assumes there is no change in the price level or inflation.
5. See diagram in text.
6. See diagram in text.
- 7.

		Impact on aggregate expenditure	Impact of economic activity
a)	Fall in mining investment	Shift down	Fall
b)	Rise in household saving after the GFC	Shift down	Fall
c)	Fall in economic growth in China	Shift down	Fall
d)	Increase in government infrastructure spending	Shift up	Rise
e)	Rise in consumer confidence	Shift up	Rise
f)	Fall in the exchange rate	Shift up	Rise

10.7

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) \$32m; (c) 4; (d) 1.67 (add up all the leakages).
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 change in consumption of... (\$m)	Leads to change in savings of... (\$m)
1 st Round	64	$0.75 \times 64 = 48$	$0.25 \times 64 = 16$
2 nd Round	48	$0.75 \times 48 = 36$	$0.25 \times 48 = 12$
3 rd Round	36	$0.75 \times 36 = 27$	$0.25 \times 36 = 9$
4 th Round	27	$0.75 \times 27 = 20.25$	$0.25 \times 27 = 6.75$
5 th Round	20.25	$0.75 \times 20.25 = 15.19$	$0.25 \times 20.25 = 5.06$
6 th Round	15.19	$0.75 \times 15.19 = 11.39$	$0.25 \times 15.19 = 3.40$
Final total after infinite rounds	$64 \times 4 = 256$	$256 - 6 = 192$	64

5. (a) 2 (300/150) (b) 1.5 (300/200)
6. (a) *Bigger.*
(b) *Bigger.*
(c) $6 \times 1.82 = \$10.91b.$
(d) *Fall.*
(e) $\$12b (2.5 \times 4.8).$

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question a) How is equilibrium determined in the aggregate expenditure model? [8 marks] b) Describe the impact of fall in planned expenditure in the mining sector on the equilibrium level of income and output? [12 marks]	
Overall scaffold PART A Introduction (definition of AE, equilibrium) (4 marks) Draw model and explain key features (4 marks) PART B Define planned investment (2 marks) Explain impact of fall in planned injection (4 marks) Explain impact of multiplier process (6 marks)	Body paragraphs PART A Introduction – define aggregate expenditure and equilibrium Explain why $AE = Y$ is equilibrium condition Draw Keynesian cross Y/AE diagram – explain role of 45 degree line PART B Introduction – topical comment about end of mining investment boom Identify fall in planned investment as a net leakage and fall in AE Draw diagram to show fall in AE (or AD) Explain multiplier process (what it is, why it happens, importance of marginal propensity to consume, example of other people affected by drop in investment) State formulae
Key terms / Definitions Equilibrium Aggregate expenditure Planned investment Multiplier Marginal propensity to consume	Evaluation / Conclusion Will other factors stay the same (e.g. rise in mining exports to offset fall in investment) Discuss how strong the multiplier will be (e.g. impact of fall in exchange rate)
Diagrams / models Keynesian cross aggregate expenditure PLUS Any way of showing multiplier process (e.g. step by step on AE model, using a table)	

11 – AGGREGATE DEMAND AND AGGREGATE SUPPLY

11.1

1.
 - (a) *Micro = many, macro = 1.*
 - (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. $C + I_p + G + X - M$
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. *See text.*

11.2

1. *See text.*
2.
 - (a) *Rise in costs of production.*
 - (b) *Fall in costs of production.*
 - (c) *Change in the price level.*
3. *Its position 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 – reduction in capacity, e.g. drought, loss of skilled workers from labour force; shift right – increase in capacity, e.g. rise in planned investment, rise in infrastructure spending by the government.

11.3

1. When real GDP approaches potential GDP shortages occur in resource markets, e.g. skilled labour is in hard to find so costs of production rise.
2. At full capacity or potential GDP there are no unused resources so production of goods and services can't be increased, whatever happens to the price level.
3. There is lots of spare capacity, e.g. a high level of unemployment. Firms can take on more workers without have to increase wage rates.
4. Neither or both! The equilibrium position created after an economic shock is not subject to any further change because resource markets are 'sticky'. The economy can be stuck at a level below the level of potential real GDP until there is a new external shock.
5. Shift down caused by fall in production costs, shift up caused by rise in production costs. Shift left caused by reduction in capacity or potential real GDP, shift right caused by increase in capacity or potential real GDP.

11.4

1. Where AD and SRAS cross. See diagram in text.
2. Where AD, SRAS and LRAS all cross. See diagram in text.
3. If real GDP falls below the full capacity level of GDP this will create a surplus in resource markets (such as the labour market). The price of resources will fall (e.g. wage rates will fall). This will cause SRAS to shift downward. The fall in the price level will allow aggregate demand to expand until the economy returns to full capacity.
4. Wait for the economy to self-adjust.
5. New-classical economists believe resource markets are flexible enough to allow the economy to self-adjust back to full employment (or potential GDP) without the need for policy measures by the economy's macroeconomic managers. Keynesian economists believe the adjustment process does not take place because resource markets are inflexible or 'sticky'. The economy, therefore, can get stuck at a level where there is not full employment. The economy needs policy measures to nudge it closer to the full employment or capacity level of real GDP.

11.5

1. Resources become increasingly scarce as the economy moves towards the level of potential output. For example, when there is high unemployment, firms can probably hire more workers without the need to offer them higher pay, but when labour is short, supply firms may have to offer higher wages to attract suitable applicants.
2. At real income level Y1 $AD = AS$. There is no automatic self-adjustment process in resource markets to shift the AS curve down and to the right and the equilibrium to the full employment level of real income.
3. Minimum wage laws and 'award' conditions; Trade union membership and the influence of trade unions in wage negotiations; Reluctance of workers to accept nominal pay cuts.
4. Fiscal or budgetary stimulus through additional government spending or tax cuts, and reductions in the cash rate.

11.6

- 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	Rise	Fall	Rise
b)	Fall in exports to China	Left	Fall	Rise	Fall
c)	Rise in household saving	Left	Fall	Rise	Fall
d)	Rise in interest rates	Left	Fall	Rise	Fall
e)	Rise in business expectations	Right	Rise	Fall	Rise

2. The simple Phillips Curve suggests there is an inverse or negative relationship between demand-pull inflation and cyclical unemployment. When AD rises, other things being equal, demand-pull inflation rises and cyclical unemployment falls. The shape of the AS curve dictates the shape of the Phillips Curve.

3. See diagrams in text.

11.7

	Supply-side shock	Direction of shift in AS (left or right)	Impact on growth	Impact on unemployment	Impact on inflation
a)	Increase in labour force	Right	Rise	Not clear	Fall
b)	Fall in energy costs	Down	Rise	Fall	Fall
c)	Rise in unit wage costs	Up	Fall	Fall	Rise
d)	Prolonged drought	Left	Fall	Fall	Rise
e)	Rise in business investment	Right	Rise	Not clear	Fall

11.8

1. See text.

2. Your choice of topic. See Chapters in Unit 3 for some ideas.

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question a) What determines the shape and position of the aggregate demand curve? [8 marks] b) Using the aggregate demand and aggregate supply model, explain the impact of a rise in labour productivity on the macroeconomic performance of the Australian economy? [12 marks]	
Overall scaffold PART A Factors causing inverse relationship Factors affecting level of AD PART B Define labour productivity Impact on AS (or SRAS and LRAS) and AD Draw diagram to show new equilibrium Explain impact on macroeconomic objectives	Body paragraphs PART A Introduction – define AD Three factors causing inverse relationship between price level and AD (wealth, interest rate and competitiveness) Changes in C or I _p or G or X – M PART B Introduction – define AS, define labour productivity and give examples of measures that increase it Explain primary down and right shift in AS (or down shift in SRAS and right shift in LRAS) Explain secondary impact on AD (being careful to distinguish between movement along and shift in AD) Draw and explain AD/AS diagram Describe outcome (more growth, little or no inflation, more cyclical employment but also rise in structural unemployment.
Key terms / Definitions Aggregate demand Labour productivity Aggregate supply Equilibrium Macroeconomic performance	
Diagrams / models Aggregate demand and aggregate supply model Possible addition of simple Phillips Curve and Aggregate Production Function	Evaluation / Conclusion Allows non-inflationary growth, removes speed limit on growth Different stakeholders affected in different ways Short term and long term effects

12 – ECONOMIC OBJECTIVES

12.1 (Data correct at March 2015)

Key area	Performance indicators	Current data	Comment
Economic growth	GDP (% per year) HDI	2.5% 2 nd in world	Below trend
Price stability	CPI (% per year) Producer prices (%)	1.7% 1.2%	Below target zone Falling due to oil prices
Full employment	Unemployment rate (%) Participation rate (%)	6.4% 64.7	Above natural level Falling
Equitable income	Gini coefficient People seeking support	33 (approx.) -	Become less even Rising
Efficient resource use	Trade agreements Lower government spending	- -	China, Japan, Korea, (India)

12.2

1. *As much growth for as long as possible without causing problems elsewhere.*
2. *See text.*
3. *Interpreted as being consistent with annual inflation between 2% to 3%.*
4. *See text.*
5. *Interpreted as zero cyclical unemployment (i.e. at the natural rate of unemployment) or NAIRU (non-accelerating inflation rate of unemployment) – about 4% to 5% in Australia.*
6. *See text.*
7. *More equity or fairness in the distribution of income (e.g. between industries, sectors, regions, skill levels, ethnic groups and genders).*
8. *See text.*
9. *Efficient use of the nation's scarce resources. Economic efficiency involves productive efficiency, allocative efficiency and adaptive or dynamic efficiency.*
10. *See text.*

12.3

1. *Draw AD and AS diagram. Shift AD and AS to the right (or SRAS down and LRAS to the right). Show that new equilibrium is at more or less same price level but higher real GDP.*
2. *A rise in labour productivity and a rise in the labour force may provide the resources for the extra growth.*
3. *In the mining investment boom growth was higher in WA and Queensland than in NSW and Victoria. Some industries become uncompetitive as a result of the rise in the exchange rate.*
4. *Achieving price stability may involve reducing aggregate demand, but once people become confident that price stability can be maintained, aggregate demand rises again (more C, more planned investment, more net exports).*

12.4

1. *There is a lack of up to date indicators to measure actual growth. It is very difficult to measure potential growth.*
2. *The output gap is cumulative.*

Year	1	2	3	4
Actual growth rate	0	2	5	5
Potential growth	3	3	3	3
Output gap	3	4	2	0

3. *Actual growth = growth rate this year; Trend growth = actual growth on average in previous years; Potential growth = upper ceiling for future growth rate.*

12.5

1. *Wages rates do fall, if not directly but indirectly when workers who lose their jobs take a new job at lower pay. Commodity prices fall when there is excess supply.*
2. *See text.*
3. *Structural problems e.g. build up of regulations, spread of monopoly power, corruption, poor banking system and other institutions.*

4. *Active fiscal stimulus, reduce cash rates or wait for self-adjustment*

12.6

1. *Fiscal policy, monetary policy and supply-side reform measures.*
2. *See text.*
3. *See text.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question a) Describe the policy objectives of the government and Reserve Bank? [8 marks] b) Explain three problems that policy makers have to overcome to achieve these policy objectives. [12 marks]	
Overall scaffold PART A Describe policy objectives PART B Time lags Clash between objectives Information gaps (Other problems could be explained)	Body paragraphs PART A Introduction – define policy objectives Steady sustainable economic growth Price stability Full employment (NAIRU) Equitable income distribution Efficient use of resources PART B Time lags (recognition of trends, decision making, implementation and effect) Clash of objectives in the short run when aggregate demand changes and AS does not (e.g. price stability and full employment) Information gaps e.g. the size of the output gap (actual output and lagging indicators and difficulty of measuring potential output) Other problems could be substituted for these.
Key terms / Definitions Policy objectives Full employment Price stability Economic growth Equitable income distribution Efficient use of resources Lagging, coincident and leading indicators	
Diagrams / models AD/AS model Phillips Curve model	Evaluation / Conclusion No clashes in long run if AS changes and inflation is controlled Many other problems experienced by policy makers.

13 – FISCAL POLICY

13.1

1. *See text. Policy variables are government spending and tax receipts.*
2. *Total demand for final goods and services produced in the economy over a given period of time; $C + I_p + G + X - M$; Direct impact on government spending (G); Indirect effects on C, I_p 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. *In surplus until 2007-08, then moved into deficits.*
- 5.

	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

6. *Debt rises because the government needs to borrow money to finance the deficit.*

13.2

1. *See text.*
2. *See text.*
3. *See text.*

13.3

1. Cyclical = automatic changes to budget balance because of change in the level of economic activity. Structural = changes to the budget outcome caused by discretionary or deliberate policy changes by the government.
2. Cyclical changes to the budget balance happen automatically, without the need for any government policy changes. Discretionary fiscal policy involves government policy changes.
3.
 - (a) Automatic.
 - (b) Discretionary.
 - (c) Discretionary.
 - (d) Automatic.
4. Year 2 = Expansionary; Year 3 = Contractionary; Year 4 = Contractionary; Year 5 = Neutral. Stance depends on changes to structural balance, not overall balance.
5. Discretionary or structural balance. Not necessarily – for short period may wish to provide fiscal stimulus on top of automatic stabilisation. May need structural surplus to reduce government debt.

13.4

1.
 - (a) Shortage in aggregate expenditure between current level and level needed to reach potential GDP.
 - (b) Shortfall in real GDP between current level and level needed to reach potential GDP.
 - (c) Excess of aggregate expenditure between current level and level needed for potential GDP.
 - (d) Excess of real GDP between current level and level needed for potential GDP.
2. Fiscal stimulus that aims to increase the level of real GDP. Appropriate when the economy is below full employment or potential real GDP. See text for diagram.
3. Fiscal policy that aims to decrease the level of real GDP. Appropriate when the economy is above full employment or potential real GDP. See text for diagram.

13.5

1. See text.
2. 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).
3. +\$10b (balanced budget multiplier coefficient is always 1)
4. -\$13.5b (balanced budget multiplier coefficient is always 1. I hope you didn't do the maths)
5. The taxation multiplier is always 1 less than the government spending multiplier.
6. If the multiplier is large enough, the rise in economic activity will generate enough extra tax and reductions in welfare spending to pay for the stimulus.

13.6

1. See text. NBN is a good example.
2. See text. Extra borrowing causes a rise in interest rates. A rise in interest rates reduces planned investment.
3. Fiscal stimulus is not as powerful as Keynesian economists believe. The effective multiplier can be very low and even negative.
4. It seems unlikely. Do people really plan their spending like this? There may be some loss of confidence if governments appear to have lost control of the nation's finances.
5. See text. Problems include loss of credit rating, emergence of a debt trap and opportunity cost of interest payments.
6. 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.
7. They like to be reelected. Spending is more popular than tax cuts. Debt builds up.
8. See text. Austerity leads to crowding-in (the opposite of crowding-out) and reduces debt problems.
9. Flexible resource markets, especially labour markets.
10. (a) Strength; (b) Weakness; (c) Strength; (d) Weakness; (e) Strength; (f) Strength; (h) Strength; (i) Weakness.

ESSAY WIZARD - ESSAY PLAN SUGGESTION

Question Discuss the advantages and disadvantages of returning the budget to surplus in two years time. [20 marks]	
Overall scaffold Introduction – definitions / topical info Costs of budget deficit Advantages of budget deficit Conclusion	Body paragraphs Introduction – define terms, outline budget balance situation Is deficit cyclical or structural? Costs of budget deficit Debt issues (interest payments burden on future generations, renewing debt in a crisis, credit rating) Ineffective due to crowding out (resource, financial, exchange rate issues) Advantages of budget deficit Consequences of austerity (job losses, social consequences) Multiplier process Weak demand from other sources Monetary policy ineffective
Key terms / Definitions Budget deficit Structural deficit Cyclical deficit Multiplier Crowding out Austerity	
Diagrams / models AD and AS diagram OR Keynesian Cross Y/Ex diagram	Evaluation / Conclusion Unlikely to be crowding out issues at present in Australia Government borrowing not high by international standards Borrow now while rates are low (2.5% on 10 year government bond)

14 – MONETARY POLICY

14.1

1. *See text.*
2.
 - (a) *Reserve Bank of Australia.*
 - (b) *Cash rate.*
 - (c) *Stability of the currency, full employment and prosperity for people in Australia.*
 - (d) *The inflation target.*
 - (e) *2% to 3%, on average, over the life of the business cycle.*
 - (f) *Primarily demand-side.*
3. *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.*

14.2

1.
 - (a) *Increases the cash rate.*
 - (b) *Reduces the cash rate.*
 - (c) *Expansionary or accommodative.*
 - (d) *Contractionary.*
 - (e) *Neutral.*
 - (f) *Between 3.5% to 4.5%.*
2.
 - (a) *2.50%.*
 - (b) *Loose or accommodative.*
 - (c) *Tightening.*
 - (d) *Contractionary.*
 - (e) *About 2.5% (the difference between cash rate and the real cash rate)*
3. *Leading = investment intentions, stock exchange indices; Coincident = GDP data, retail sales; Lagging = CPI (inflation), rate of unemployment.*

4. *When economic growth rises above trend, cash rates are tightened to a contractionary level, and when economic growth falls below trend, cash rates are loosened to an expansionary level.*

14.3

1. *See text.*
2. *SECAM works for me!*

14.4

1. *See text. Low consumer and business expectations and indecisive government reduce confidence. People save extra income rather than spend it.*
2. *See text for advantages of monetary policy.*
3. *Fiscal policy has long inside lags (especially decision and implementation lags) and shorter effect or impact lags. Monetary policy is the other way round with short inside lags but much longer effect lags (especially when the economy is growing at below the trend rate).*
4. *It can be changed every month. There is only one instrument to change but this makes the impact blunt or generalised. Cash rates only change the economy indirectly by because aggregate demand is only affected when other interest rates change. Changing fiscal policy is inflexible because it is complex and many groups with vested interests have to be consulted.*
5. *Not directly, but neither can fiscal policy. By reducing demand-pull inflation both policies can compensate for cost-push inflation and natural unemployment but not reduce them. Supply-side policies are needed.*

14.5

1. *Did US rates rise after they stopped quantitative easing? Did quantitative easing help Europe avoid deflation? Is Australia successfully rebalancing growth after the end of the mining investment boom?*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question Explain the factors that have influenced cash rate decisions in the last three years. [14 marks]	
Overall scaffold Introduction / definitions Describe recent cash rates decisions Goals of Reserve Bank Describe state of the economy Explain why long period of stable rates Explain why cuts started again in Feb 2015 Conclusion	Body paragraphs Introduction (Definitions, point out period of cash rate stability from Aug 2013 to Feb 2015) Outline of goals of Reserve Bank Describe state of the economy (below trend growth, low inflation after petrol price fall, rising unemployment) Why were rates stable at 2.50% for so long? Weak transmission mechanism, long effect lag Dollar slow to depreciate Low confidence consumer and business confidence Unsure about fiscal policy outcome Forward guidance about low rates designed to give confidence Need to rebalance economy after end of mining investment boom and fall in Chinese growth rate Why did cuts start again in Feb 2015? Fall in petrol prices reduced inflation Growth still below trend and unemployment continues to rise Low interest rates in rest of world due to continuing slow growth Reduced concern about housing bubble
Key terms / Definitions Cash rates Transmission mechanism Effect lag Forward guidance	
Diagrams / models AD and AS model	
	Evaluation / Conclusion Will further cash rate cuts make any difference?

15 – STRUCTURAL CHANGE

15.1

1. *See table.*
2. *See chart.*
3. *Impact of the mining investment boom, Chinese industrialisation and the high Australian Dollar.*

15.2

1. *Growth in mining. Competition from Chinese manufactured exports. Impact of the high dollar on demand for some services.*
2. *As incomes increase the pattern of consumption changes.*
3. *Reduced protectionism gives successful exporters access to bigger markets and consumers access to cheaper imports.*
4. *High dollar decreases the price of imports and the foreign currency price of exports.*
5. *Transport costs reduced, communication easier, outsourcing expanded. Capital-intensive production replaces labour intensive production in some areas.*

15.3

1. *See text*
2. *Ageing of the population has increased demand for aged-care and health services while the high dollar has affected tourism services and demand from overseas students.*

15.4

1. *Growth of manufacturing in East and South-East Asia (including Japan and China). High unit wage costs in Australia. Burden of regulation.*
2. *Specialised ships, medical equipment. Reflects our areas of comparative advantage (see text).*

15.5

1. *Growth in China, inelastic supply of resources, increase in resource prices, inflows of foreign investment.*
2. *Mining production is capital-intensive. Exporting needs fewer workers than creating the capacity to produce. Outsourcing of tasks to service sector e.g. transport, safety, catering.*

15.6

1. *Relative rise of other sectors. Protectionism in overseas markets (e.g. EU). Some sectors affected by Australian Dollar.*
2. *Trade agreements give improved access to these markets. Rising incomes in these countries mean their citizens are looking to buy better quality food (e.g. dairy products and meat).*

15.7

1. *Dutch disease – Rise in exchange rate, caused by one growth in one sector, affects competitiveness in other sectors. Resource curse – earnings from one successful sector reduce the incentive to improve productivity in other sectors.*
2. *Float of the dollar. Flexibility in labour markets. Deregulation and privatisation. Reduced level of protectionism.*

15.8

1. *Advantages – protection of jobs in industry, protection of jobs in component and service suppliers; disadvantages – inefficient use of resources, cost to taxpayers, reduction of moral hazard or incentive to raise productivity.*
2. *By deregulating markets and making them competitive; through interventionist measures such as the investment in human capital and infrastructure.*
3. *There is only one cash rate to deal with different levels of industry and regional growth. Inflation control adds to business confidence. The RBA may have to consider influencing the exchange rate.*

15.9

1. *The level of income elasticity of demand differs from product to product. Industrialisation in China gave a boost to the resources sector but detracted from growth in manufacturing. Growth in the resources sector led to an appreciation in the exchange rate that led to a reduction in growth in manufacturing and services.*
2. *It leads to a more efficient allocation of resources.*

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question Explain why end of the mining investment boom will lead to structural change in the Australian economy. [14 marks]	
Overall scaffold Define structure of economy / brief description of current structure Relevant factors resulting from end of mining investment boom and their impact Other factors Conclusion	Body paragraphs Introduction – definition of terms / topical comment Brief description of structure of economy at end of mining boom Extent of decline in mining (exports will still strong, China will still grow) Relative shares change (total can't be more than 100%) Positive impact on non-commodity and tradables sectors Impact of fall in terms of trade on exchange rate (end of Dutch Disease) More even growth (better for NSW and VIC, worse for WA and Q) Impact of fall in real incomes Impact of inflation (imported cost-push)
Key terms / Definitions Structural change Mining investment boom Rebalancing of growth Two-speed economy Dutch Disease Resources Curse	
Diagrams / models Micro diagram to show impact of change in price on supply OR Consumer surplus, producer surplus model	Evaluation / Conclusion Depends on other factors such as Extent of economic reform (no Resources Curse) Free trade agreements

16 – MEASURES TO IMPROVE PRODUCTIVITY

16.1

- 100 widgets.
 - 2.5 widgets per hour.
 - 8.33 widgets per hour.
 - Investment in capital, improved technology embedded in the new machine, perhaps better management.
- It is 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 1-to-1 laptops?

16.2

- Output achieved using different levels of resource inputs.
 - PPF shows output of two products from the economy's stock of resources.
 - The shape of both are governed by the law of diminishing marginal returns (or increasing costs).
 - Productivity growth leads to an upward shift in the APF. This allows the rate of growth in output to be maintained.
- Slower growth and inflation. The rate of growth in potential output provides a 'speed limit' or ceiling to growth in actual output.
- Sales fall and stocks of inventories rise. Firms reduce output but are reluctant to reduce their workforce due to their investment in the workers' human capital (training, experience), loyalty to their workers and problems and expense of recruiting labour if and when the demand rises again. Other production costs are fixed in the short run (e.g. depreciation).

16.3

- Population, participation and productivity. Biggest contribution from productivity, lowest contribution (a negative one) from labour force participation.
- Technological progress, private sector investment in capital goods with embedded new technology, public sector spending on infrastructure and human capital (e.g. education and health), improved management.

16.4

1. *Market orientation* = measures, for example, to increase the use of pricing signals or reduce regulation. *Interventionist* = measures, for example, to increase regulation or level of direct provision by the government.
2. See text for list of sources of government failure.
3. See text for list of sources of market failure.
4. Possible recent measures for analysis include privatisation (or leasing of public assets to the private sector), deregulation of university fees, co-payments for access to Medicare services, industrial relations reform, and free trade agreements.

16.5

1. Pay rates can be linked more closely to productivity rates. Unit labour costs can be reduced. Labour resources can be used more flexibly.
2. Workers would object to reductions in their pay and conditions at work. Trade unions would worry about membership and their ability to look after the interests of their members.

16.6

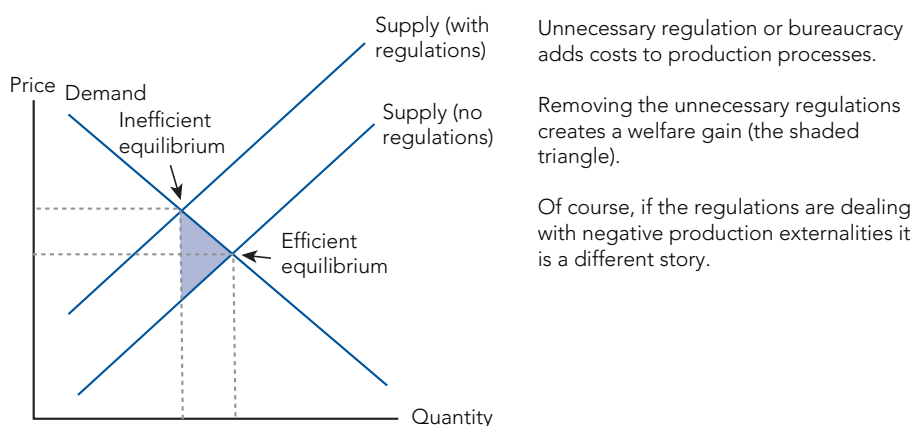
1. Increased incentive and reward for effort. Markets would not be distorted as much leading to a better allocation of resources. There is more money to spend on public infrastructure and investment in human capital. A fairer tax system may promote social harmony.
2. People with vested interests would oppose some changes (e.g. people with investment property and high balances in superannuation funds). A rise in GST would be inflationary.
3. See text. It is difficult to achieve all the principles at once e.g. equity may clash with efficiency and competitiveness may clash with sustainability.

16.7

1. It leads to an improved allocation of resources, greater competition amongst producers and opportunities for producers to benefit from economies of scale.
2. FDI provides extra finance for investment in capital goods. Multinational corporations also introduce new technology and work practices to production processes in Australia.
3. Internationally uncompetitive producers will oppose free trade as their profits will fall, and by workers in these industries who may lose their jobs.
4. FDI will be opposed by local firms as their profits will fall. Workers may be forced to adopt new work practices or gain new skills.

16.8

1. Three themes are competition, deregulation and privatisation. See text for examples or use your own.
- 2.



3. Additional regulatory costs cause an upward shift in the SRAS (and a leftward shift in LRAS). This leads to a contraction in aggregate demand (e.g. by reducing investment and international competitiveness) slowing growth. This, in turn, reduces employment and increases inflation.

16.9

1. They decrease costs (therefore, shifting SRAS down) and/or increase capacity (therefore, shifting LRAS to the right). The benefits are long-term rather than immediate.

ESSAY WIZARD - ESSAY PLAN SUGGESTION	
Question Discuss how economic reform measures can contribute to an increase in both productivity and living standards in Australia. [20 marks]	
Overall scaffold Introduction Interventionist and market orientation PILOT areas Models to link productivity to growth and living standards Conclusion	Body paragraphs [10 marks for understanding demands of question and other content] Introduction (Definitions / Topical comment) Describe role of interventionist measures in raising productivity Describe role of market-orientated measures in raising productivity. Draw model and explain List of PILOT areas Examples from one area Examples from second area Conclusion
Key terms / Definitions [4 marks] Economic reform Define productivity Define living standards (real incomes)	
Diagrams / models [4 marks with explanation] At least one of: Aggregate production function (upwards shift caused by productivity growth, leads to growth in output and income) Aggregate demand and aggregate supply (shift in AS down and to right (or LRAS right and SRAS down) leads to rise in real GDP) Microeconomic demand and supply diagram to show how specific reform measure can increase welfare or reduce deadweight loss	Evaluation / Conclusion Links to aggregate demand Increase in aggregate supply not sufficient on its own.



ANSWERS TO REALITY CHECK QUESTIONS

1 – GLOBAL INTERDEPENDENCE

1. c; 2. d; 3. c; 4. d; 5. a; 6. d; 7. a; 8. c; 9. a; 10. b

2 – FREE TRADE

1 a; 2 b; 3 a; 4 b; 5 b; 6 d; 7 c; 8 b; 9 a; 10 a

3 – PROTECTIONISM

1 d; 2 a; 3 a; 4 c; 5 b; 6 d; 7 b; 8 c; 9 c; 10 d

4 – AUSTRALIA'S PATTERN OF TRADE

1 a; 2 b; 3 c; 4 d; 5 b; 6 c; 7 a; 8 b; 9 c; 10 d

5 – BALANCE OF PAYMENTS

1 c; 2 a; 3 b; 4 d; 5 d; 6 d; 7 b; 8 c; 9 d; 10 c

6 – TERMS OF TRADE

1 c; 2 c; 3 b; 4 b; 5 b; 6 b; 7 d; 8 c; 9 b; 10 a

7 – EXCHANGE RATES

1 a; 2 d; 3 b; 4 c; 5 c; 6 c; 7 b; 8 c; 9 d; 10 d

8 – FOREIGN INVESTMENT

1 b; 2 d; 3 c; 4 c; 5 b; 6 c; 7 b; 8 a; 9 b; 10 c

9 – BUSINESS CYCLE

1 c; 2 a; 3 b; 4 c; 5 c; 6 d; 7 b; 8 c; 9 a; 10 c

10 – AGGREGATE EXPENDITURE

1 a; 2 b; 3 d; 4 b; 5 a; 6 a; 7 b; 8 c; 9 b; 10 b

11 – AGGREGATE DEMAND AND AGGREGATE SUPPLY

1 c; 2 a; 3 c; 4 c; 5 c; 6 d; 7 a; 8 d; 9 b; 10 a

12 – POLICY OBJECTIVES

1 c; 2 b; 3 c; 4 b; 5 b; 6 d; 7 c; 8 b; 9 a; 10 b

13 – FISCAL POLICY

1 a; 2 c; 3 c; 4 c; 5 a; 6 c; 7 a; 8 a; 9 a; 10 d

14 – MONETARY POLICY

1 c; 2 b; 3 b; 4 b; 5 b; 6 b; 7 c; 8 b; 9 c; 10 b

15 – STRUCTURAL CHANGE

1 d; 2 a; 3 c; 4 d; 5 a; 6 d; 7 d; 8 a; 9 a; 10 d

16 – MEASURES TO IMPROVE PRODUCTIVITY

1 c; 2 a; 3 d; 4 b; 5 d; 6 c; 7 c; 8 c; 9 b; 10 b.



SOLUTIONS TO TRIAL TESTS

TT 1: AUSTRALIA AND THE GLOBAL ECONOMY

Section 1

1. d	11. a	21. c
2. c	12. b	22. d
3. c	13. d	23. a
4. a	14. a	24. c
5. d	15. a	
6. b	16. b	
7. a	17. a	
8. b	18. b	
9. c	19. a	
10. c	20. a	

[24 marks]

Section 2

25

- (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, that may distort export and import prices through transfer pricing practices

Balance of Payments must sum to zero – current account must equal capital and financial (with opposite sign)

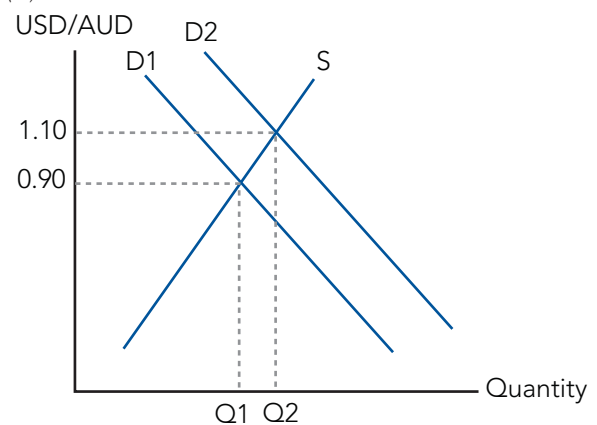
Link within current account – imports of intermediate goods allow us to export finished goods.

26.

- (a) Reduced competitiveness of manufacturing industry because of:

- Appreciation of AUD until 2015 (expensive exports, cheap imports).
- Lack of economies of scale in 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).
- Lack of infrastructure (e.g. slow broadband)
- Low productivity growth - resources curse – less need to strive to be productive believing we can live off miners' backs.
- Government regulation pushed up 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.

Why high dollar should generate a response.

- High dollar reduces competitiveness of Australian exporters by raising the price overseas in foreign currency terms.

Explanation of short-term gains

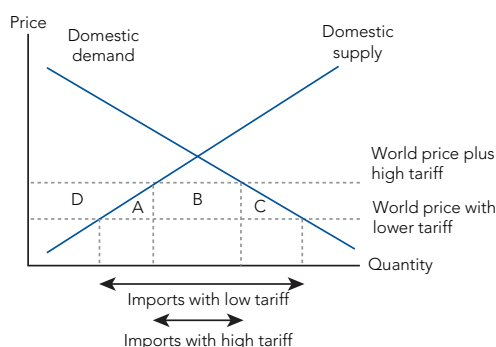
- Protectionism appears to restore competitiveness and reduce structural unemployment.

Explanation of long-term costs or problems with protectionism

- 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.

27.

- (a) A trading bloc is a group of 2 or more countries that have agreed to reduce trade barriers within the group. The TPP will be a preferential free trade area.
- (b) (i) Tariff cuts increase welfare by cutting deadweight loss.



Cutting tariff reduces 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, Area 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 is using the tariff diagram.

(iii) Cuts price of imports – we can source inputs from efficient producers.

- (c) Gains from TPP 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.

Section 3

28.

- (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).

29.

- (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').

30.

- (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

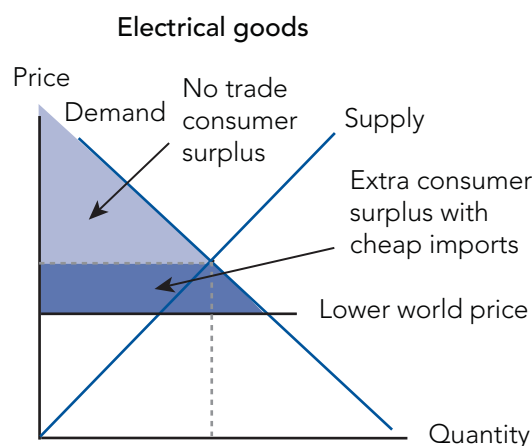
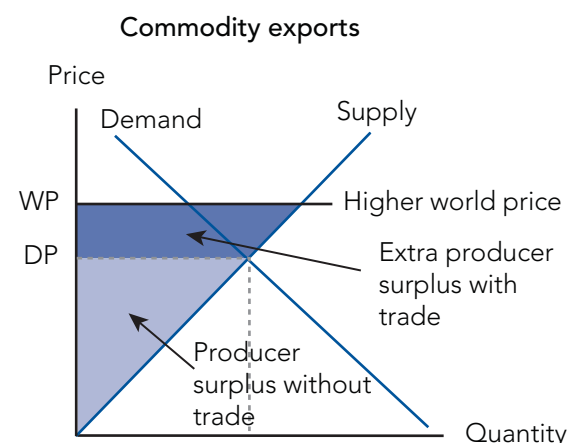
Change in import prices

- 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.

31.

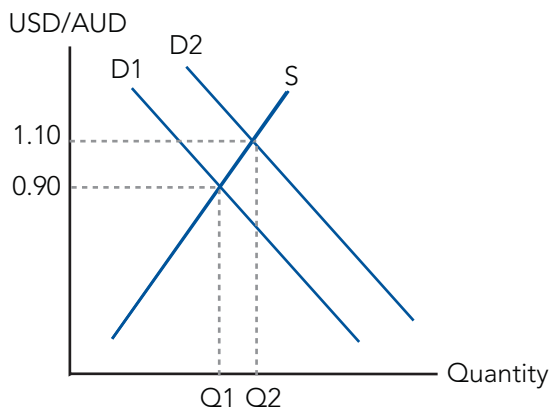
- (a) Credits = inflows of finance, debits = outflows of finance. Three credits from:

- 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 NAB).
- (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.

TT 2: ECONOMIC POLICIES AND MANAGEMENT

Section 1

1. c	11. b	21. b
2. c	12. b	22. b
3. d	13. c	23. c
4. d	14. c	24. d
5. a	15. d	
6. c	16. b	
7. c	17. b	
8. d	18. c	
9. d	19. c	
10. a	20. d	

[24 marks]

Section 2

- 25.
- i) 50,000; ii) Strongest = household services, weakest = manufacturing.
 - 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. See text for other points.
 - 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.
- 26.
- i) -3% (deficit); ii) Contractionary (reduction in size of structural deficit)
 - Ability to get 'savings' measures through Senate; rate of economic growth, level of unemployment and size of automatic stabilisation effect; the terms of trade and commodity prices and hence level of profits in mining sector.
 - 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).
- 27.
- i) 1.7% (change in CPI); ii) 3.2% (change in GDP)
 - 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).
 - 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.

Section 3

28.

- (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.

29.

- (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.

30.

- (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.

31.

- (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 ($C + I_p + G + X - M$) 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.

ECONOMICS

YEAR 12 ATAR COURSE

NATIONAL CURRICULUM – LOCAL EXPERTISE

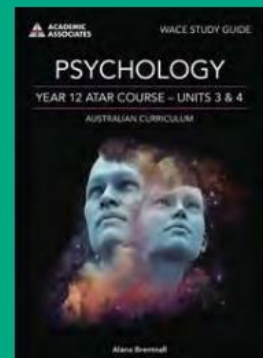
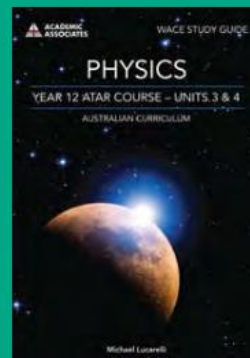
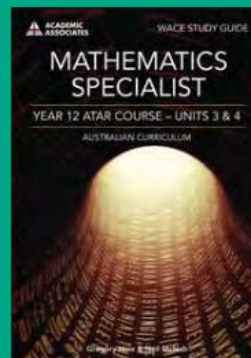
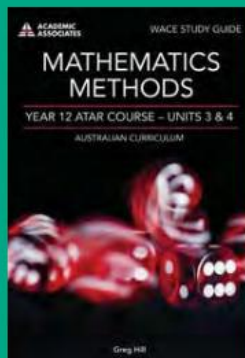
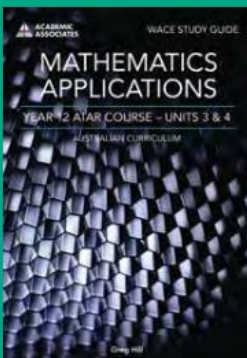
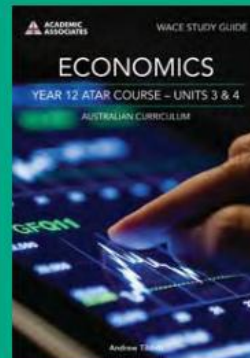
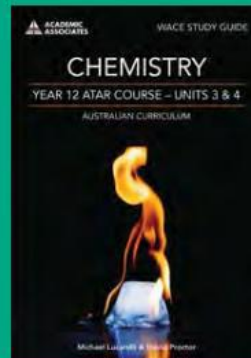
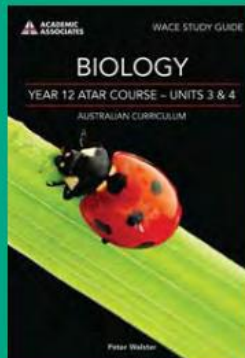
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