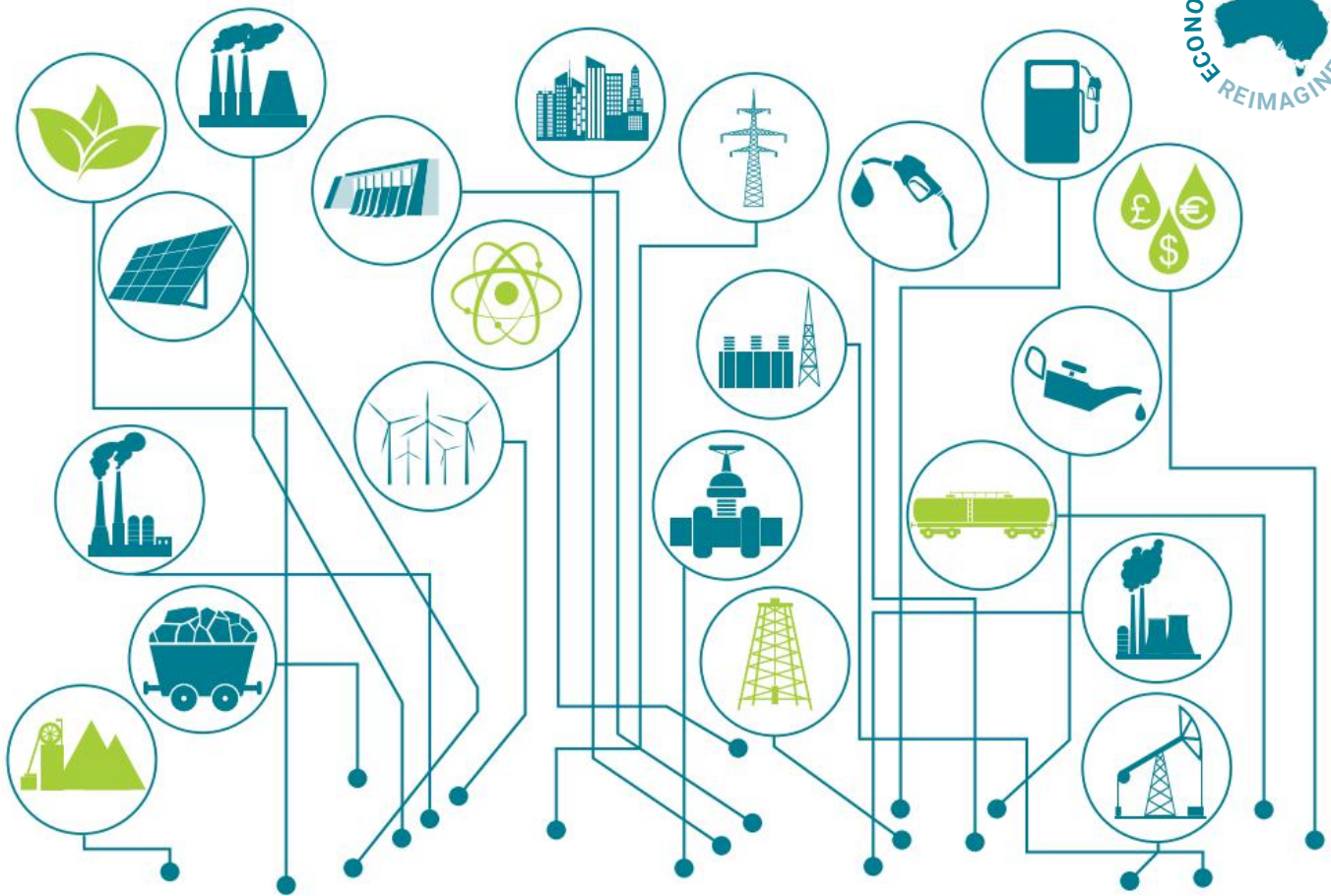


RICHARD MORRIS

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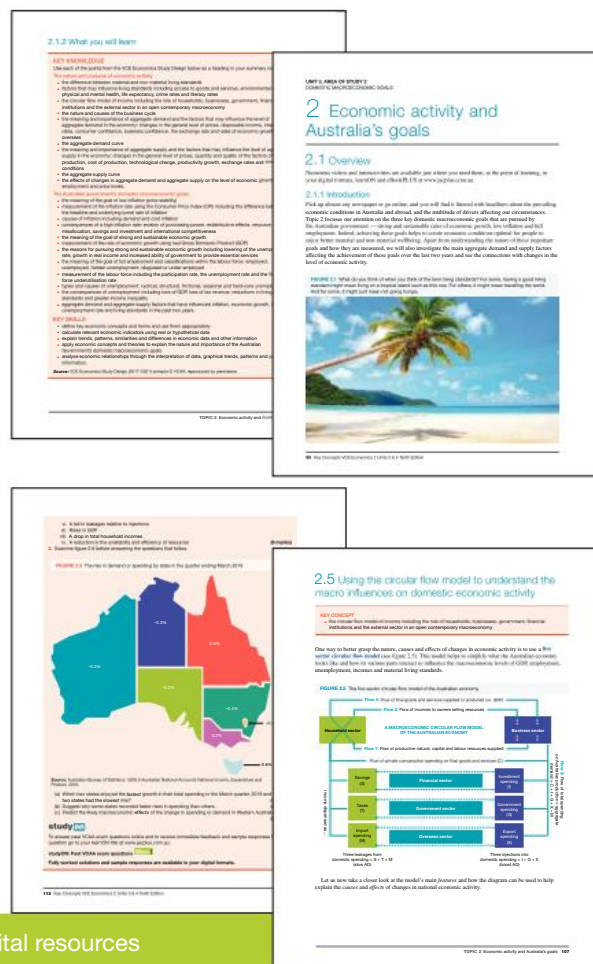
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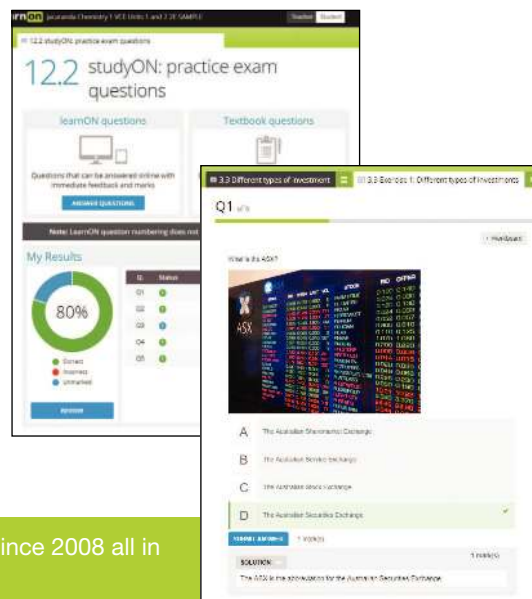
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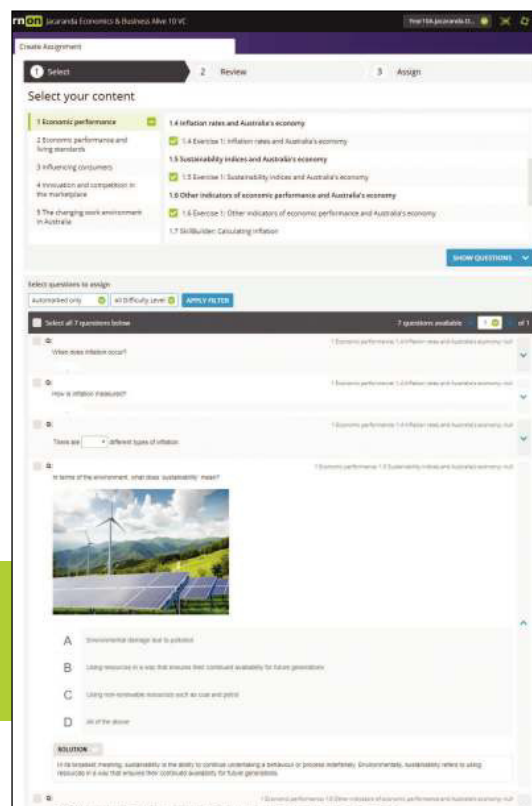
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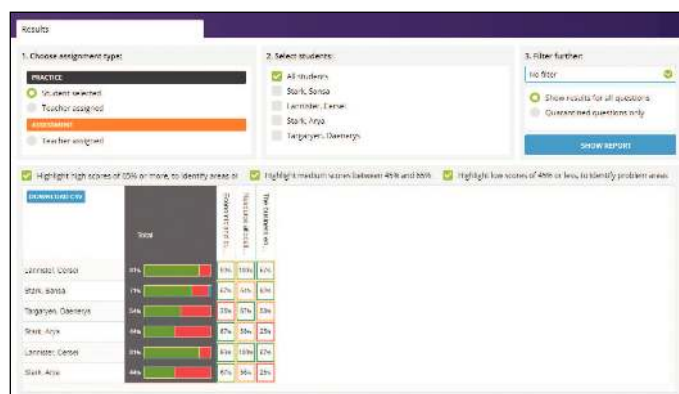
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UNIT 3

AUSTRALIA'S ECONOMIC PROSPERITY

Australia has a constantly evolving market capitalist economy, where most decisions about resource allocation, production of goods and services, and distribution of incomes are made by the free operation of the market system. This institution involves buyers and sellers who negotiate relative prices in hundreds of markets. When relative prices change over a period of time, this affects relative profits and the decisions that are made by profit-seeking owners of resources. Even so, sometimes it is necessary for governments to intervene in markets, introducing policies aimed to reduce failure and improve efficiency in the allocation of our scarce resources. Sometimes too, government intervention results in unintended consequences.

After this study of microeconomics, we will investigate the use of macroeconomic models, to study how aggregate demand and aggregate supply factors affect the speed of economic activity in Australia's economy. In turn, you will see that this impacts on whether or not the government's three main domestic macroeconomic goals are achieved, and how our level of economic prosperity determines both our material and non-material living standards.

Australia's economic prosperity and living standards are also shaped by our international trade transactions and relationships with our trading partners. Among other things, you will study how these transactions are recorded, and how the exchange rate and other factors, such as our international competitiveness, can affect these transactions, thereby ultimately impacting on our living standards.

AREA OF STUDY	OUTCOME	TOPICS
1 An introduction to microeconomics: the market system, resource allocation and government intervention	Explain how markets operate to allocate resources, and discuss the effect of government intervention on market outcomes.	1 An introduction to microeconomics
2 Domestic macroeconomic goals	Analyse key contemporary factors that may have influenced the Australian government's domestic macroeconomic goals over the past two years and discuss how achievement of these goals may affect living standards.	2 Economic activity and Australia's goals
3 Australia and the world economy	Explain the factors that may influence Australia's international transactions and evaluate how international transactions and trade liberalisation may influence the current account balance, the Australian government's domestic macroeconomic goals and living standards in Australia.	3 Australia and the world economy

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1 An introduction to microeconomics

1.1 Overview

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

1.1.1 Introduction

Most people throughout the world would probably like to be better off and enjoy improved *living standards* and wellbeing. This is true in both poor and rich countries.

- In *poor countries*, improvement may come from access to more food, to vaccinations against preventable diseases like malaria, to clean drinking water and basic education, and to dwellings that protect them from the elements.
- In *rich countries*, however, people often expect much more. Not only will most of their basic wants be met, but many also expect to have access to a range of other, largely non-essential consumer goods and services — wants like touch-screen phones and bluetooth headphones, the latest music, a tropical holiday among whispering palm trees and warm sapphire waters, body makeovers, an extensive wardrobe with something fashionable for every occasion, and the latest appliances for their massive, energy-devouring designer home. Added to this good material life, people in rich countries also expect non-material things like living in freedom with justice, far away from the ravages of war and violence, in a pristinely clean environment, with job satisfaction, a lot of leisure time and personal happiness all round!

FIGURE 1.1 Expectations of living standards and wellbeing can be extremely different between poor and rich countries.



Without natural resources including land, labour resources and capital resources or equipment such as crop harvesters, it is not possible to produce food or other goods and services that allow us to enjoy reasonable living standards. Unfortunately, resources are scarce or limited, especially in low-income countries. This restricts production levels and therefore material living standards.

While the rosy picture of aspirations in an affluent but rather greedy society could be a bit over the top, it may not be too far from reality. The challenge in meeting the aspirations in both rich and poor countries is how to deliver improvements in living standards through increased satisfaction of society's seemingly endless needs and wants, both now and into the future.



1.1.2 What you will learn

KEY KNOWLEDGE

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

- relative scarcity: needs, wants, resources and opportunity cost
- the nature of, and conditions for, a perfectly competitive market
- the law of demand and the demand curve including movements along, and shifts of, the demand curve
- factors likely to affect demand and the position of the demand curve: changes in disposable income, the prices of substitutes and complements, preferences and tastes, interest rates, changes in population and consumer confidence
- the law of supply and the supply curve including movements along, and shifts of, the supply curve
- factors likely to affect supply and the position of the supply curve: changes in the cost of production, technological change, productivity growth and climatic conditions
- the effects of changes in supply and demand on equilibrium prices and quantity traded
- the role of relative prices in markets on the allocation of resources and the effect on living standards
- the meaning and significance of price elasticity of demand and supply
- factors affecting price elasticity of demand: degree of necessity, availability of substitutes, proportion of income and time
- factors affecting price elasticity of supply: spare capacity, production period and durability of goods
- the meaning and significance of economic efficiency: allocative efficiency, productive efficiency, dynamic efficiency and intertemporal efficiency
- the effect of competitive markets on the efficiency of resource allocation
- reasons for market failure: public goods, externalities, asymmetric information and common access resources
- the role and effect of indirect taxation, subsidies, government regulations and government advertising as forms of government intervention in the market to address market failure
- one contemporary example of government intervention in markets that unintentionally leads to a decrease in the efficiency of resource allocation.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- construct and interpret demand and supply diagrams
- interpret and analyse statistical and graphical data
- evaluate the role of the market in allocating resources
- explain the effect of government intervention in markets
- compare alternative economic viewpoints to form conclusions.

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1.2 BACKGROUND KNOWLEDGE What is economics?

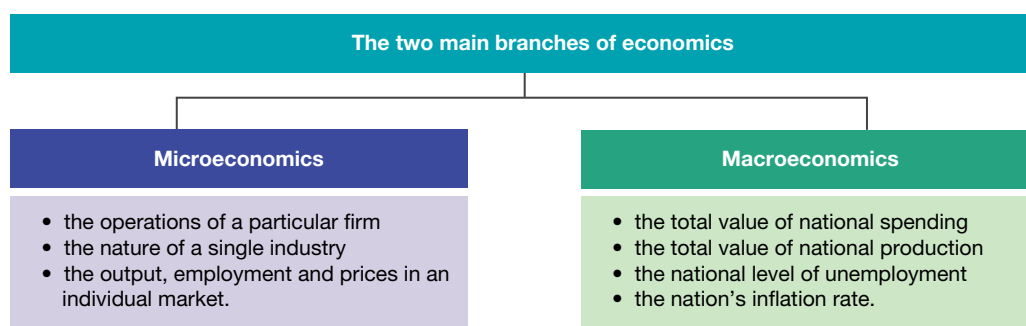
BACKGROUND INFORMATION

- We need to be able to define economics and outline what it involves. This includes understanding the meaning and significance of the macroeconomy and microeconomy.

Economics is the study of choice and how to make people better off in terms of their living standards. Economics examines how limited resources are used to produce goods and services which, when distributed fairly between individuals, can help satisfy people's unlimited needs and wants. If resources are used as efficiently or economically as possible, individuals and nations could maximise their material standard of living and become better off because production or economic activity is at its highest level. By contrast, unwise choices about how productive resources are to be used result in lower national output and reduced access to goods and services, and so material and non-material living standards suffer.

In economics, the issue of *choice* can be investigated from both a *microeconomic* and a *macroeconomic* perspective. This is summarised in figure 1.2.

FIGURE 1.2 Two different branches of economics: microeconomics and macroeconomics



- **Microeconomics** involves looking at the operation of the smaller parts that make up the wider Australian economy. It therefore focuses on a single firm, industry, sector or market.
- **Macroeconomics**, however, looks at the broader picture combining all markets and industries and the overall state of the country's economy. It therefore concentrates on areas like national spending, output, income, employment and overall material living standards. Despite these differences, almost any issue can be examined from both a microeconomic and a macroeconomic perspective.

This topic focuses mostly on the choices or decisions made at the microeconomic level, and how these may impact on Australia's allocation of resources and general living standards.



Resources



Weblinks What is economics?

Measuring the standard of living

60-second adventures in economics

1.2 ACTIVITIES

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Check your understanding

1. What is involved in the study of *economics*?
2. What is the difference between the study of *microeconomics* and *macroeconomics*?

Applied economic exercises

1. Giving brief reasons, classify each of the issues listed in table 1.1 as *primarily* areas of *microeconomic* studies or *microeconomic* studies. **(6 marks)**

TABLE 1.1 Microeconomic or microeconomic classifications

Issue	Classification of issue
(a) The reasons for Australia's lower inflation rate	
(b) The effects of a reduction in personal income tax rates	
(c) The pricing of petrol by oil companies	
(d) The causes of lower output and the decline of employment in the sugar industry	
(e) The impact of rising debt levels on farmers	
(f) The effects of a slowdown in a country's rate of economic growth.	

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1.3 Relative scarcity

KEY CONCEPT

- relative scarcity: needs, wants, resources and opportunity cost

The central problem of *relative scarcity* involves unlimited wants on the one hand, relative to limited resources on the other. Let us expand on this idea.

1.3.1 Our unlimited needs and wants

A fundamental assumption in economics is that people's needs (goods and services necessary for survival) and especially their wants (goods and services that make life more enjoyable) are infinite or unlimited. As a nation, for instance, we would like to have far more than we can possibly produce. As summarised in figure 1.3, there are four main groups expressing their needs and wants for Australian goods and services.

FIGURE 1.3 The needs and wants for Australian goods and services



The needs and wants of households for consumer goods and services

Australian individuals and households *need* essential consumer goods and services like food, housing, clothing, education and health services. We also have *wants* for less essential consumer items that help make life more enjoyable, such as iPads, the latest jeans, and magazines or ice cream. In part, satisfying even some of these needs and wants generally takes money. Many factors influence the spending decisions made by consumers, including their level of income after tax, how optimistic they are about the future, fashions and advertising, and their desire to maximise the satisfaction gained from the choices they make.

The needs and wants of private businesses

Australian firms need to purchase various resources or productive inputs to make finished goods and services. For example, they must buy producer goods like capital equipment (machines and buildings), raw and processed materials including oil and petrol, hire employees and pay for finance or credit for expanding the business. In making their spending decisions, firms will be affected by their production costs, profitability, market share, the availability and impact of new technology, and changes in consumer tastes.

The needs and wants of governments

In Australia, federal, state and local governments also have needs and wants. They must obtain capital equipment (such as kindergartens, power generators and infrastructure including roads and dams for water supply), land, finished consumer goods (e.g. stationery) and the services of staff (such as economists, doctors, teachers and defence personnel). The purpose of buying all these things is to make it possible for the public sector to produce certain goods and services that will help to satisfy the needs and wants of society that are not met fully by the private sector. Ultimately, this should help to raise general living standards.

The needs and wants of the overseas sector

Foreign governments, firms and households living overseas purchase Australian-made goods and services to help satisfy their particular needs and wants. They buy our exports of wool, wheat, minerals, tourism, education and manufactured items. Their decisions may be influenced by factors such as how many and what sort of resources they have, or by production costs. Offsetting these exports are Australia's needs for imports of goods and services such as oil, electronics, machinery and travel. We import goods and services because we are not self-sufficient and may lack the necessary resources.

Therefore, needs and wants arise from several sources including the household, business, government and overseas sectors. All contribute to unlimited needs and wants, and place a strain on our resources. Additionally, the problem of unlimited wants is made even more severe by the following:

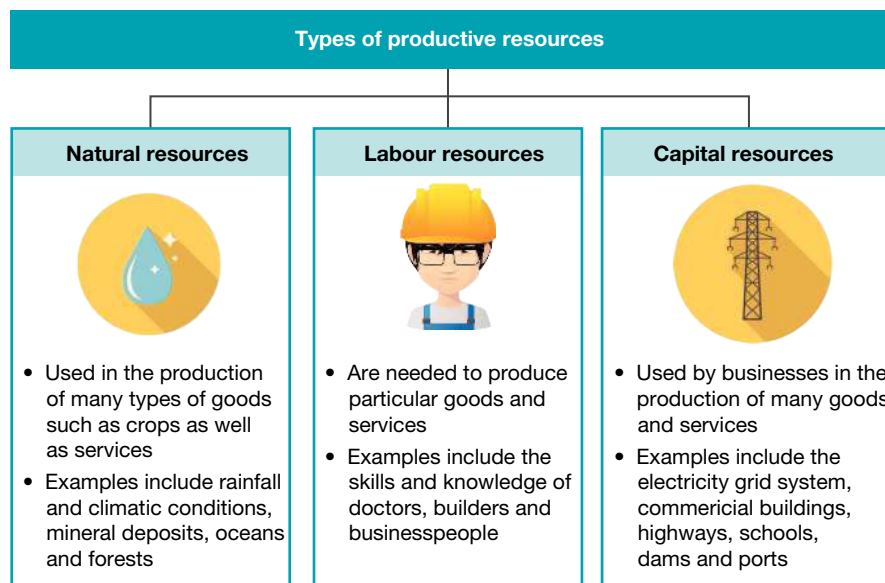
- *Many needs and wants recur*; for example, the need for food, petrol for the car.
- Our expectations of material things tend to grow since the more we have, the more we want.
- *Population growth* adds to the number of wants.
- Advertising and the latest fashions.
- *Planned or built-in obsolescence*, such as the toaster that is designed to last for only two years, contribute to our growing wants.
- *The widespread acceptance of materialism* as a personal goal (ownership of more possessions), along with growing affluence, contribute to the escalation of society's wants.

1.3.2 The limited availability of resources restricts national production

Resources (sometimes these are also called the *factors of production*) are the productive inputs required to make any good or service. Unfortunately, the quantity or quality of resources available is limited, so Australia's capacity to produce is severely restricted. In turn, this means that we are not able to fully satisfy society's unlimited needs and wants.

There are *three* main types of resources or inputs required for production (see figure 1.4).

FIGURE 1.4 The three main types of productive resource available in an economy.



1. **Natural resources** represent those found in nature and include arable land, oil, minerals, rivers, climate, native forests, air quality and oceans. Natural resources have the potential to support a variety of primary (extractive), secondary (manufacturing) and even tertiary (service) industries.



2. Skilled and unskilled **labour resources** provide physical power, mental talents, and other specialised services that are used in the production process such as those of an architect, mechanic or shop attendant. Entrepreneurship is a specialised type of labour resource and represents the skills of management, company leadership and organisation. Most of Australia's labour force is employed in tertiary industry.
3. In economics, **capital resources** are manufactured items set aside from past production, often involving physical plant and equipment (such as machinery, factories, power generators, computer systems, trucks, dams, railways and roads) used by businesses and governments to help make other goods and services. Capital equipment also incorporates new technology that results from research and development (R&D). Perhaps the main feature of increased capital resources is that they help lift the efficiency or productivity of natural and labour resources. In turn, if resources are more productive so that output per worker in an hour is greater, a nation can enjoy higher per capita incomes, consumption and material living standards.

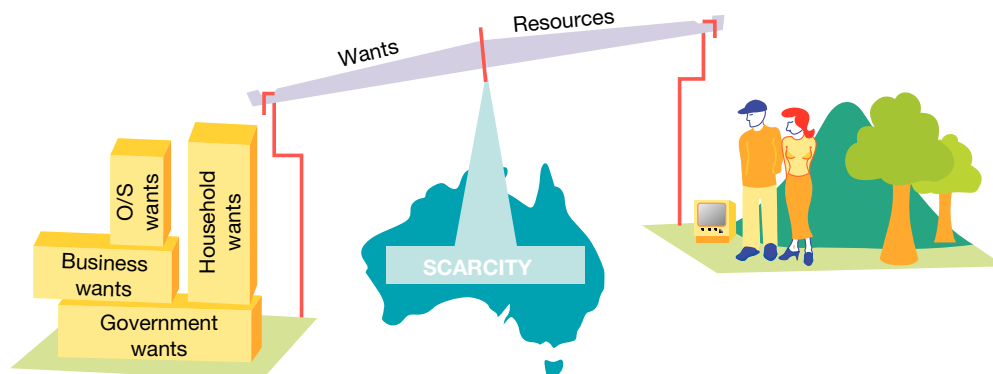


The big problem for Australia (and all countries) is that we don't have quantities of resources, and resources of sufficient quality, to produce the amount of goods and services required to satisfy our unlimited wants or demands. Our **productive capacity** and material living standards are therefore limited by the scarce resources at our disposal.

1.3.3 Relative scarcity

Relative scarcity is the concept that simply describes the imbalance that exists between our unlimited demands or wants for goods and services on the one hand, relative to the limited or finite resources that are available to help satisfy these wants, on the other hand. This basic economic problem of relative scarcity is shown in figure 1.5.

FIGURE 1.5 Relative scarcity reflects unlimited wants compared with limited resources available.



As a consequence of relative scarcity, nations cannot produce all the things they would wish. There are limits on the level of domestic output or economic activity and on how fast our economy can grow in size from one year to the next. Moreover, relative scarcity means that only the most important material wants of households, firms and governments can actually be satisfied. Other less important priorities that provide less satisfaction, pleasure or utility, must normally be abandoned. It is also worth remembering that the *price* of one good or service relative to another is used as a guide to its *relative scarcity*. So because diamonds are relatively scarcer than air, they have a high price while air is usually free and has a zero price.

on Resources



Weblinks Basic concepts in economics

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

1.3 ACTIVITIES

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Check your understanding

1. What is the difference between needs and wants, and why do we say that wants are unlimited?
2. List, define and give examples of the three main categories of productive resources that are available to a nation.
3. Define the basic economic problem of relative scarcity.

Applied economic exercises

1. (a) We say that society's wants are *unlimited*. Explain what is meant by unlimited wants. **(2 marks)**
(b) Classify the following resources as natural, labour or capital resources. **(5 marks)**

Resources	Type of resource - natural, labour or capital resource
The new NBN cables	
A computer at BHP	
The fertile soils in the Western District of Victoria	
The MCG sports oval and complex	
The school principal	
Port Phillip Bay	
The Sydney Opera House	
The M80 Ringroad or East Link	
Native forests in Tasmania	
Serena Williams (tennis player)	

- (c) Distinguish *capital* resources from *natural* resources. **(2 marks)**
- (d) Explain why *capital resources* are such an important influence on a nation's productive capacity (size of the production possibility frontier) and material living standards. **(2 marks)**
- (e) There are two main causes of *relative scarcity*. Explain. **(2 marks)**
- (f) Giving examples, explain how the price of each good or service is a good indicator of its relative scarcity. **(2 marks)**

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1.4 Choice, opportunity cost and resource allocation

KEY CONCEPTS

- relative scarcity: needs, wants, resources and opportunity cost
- the meaning and significance of economic efficiency: allocative efficiency, productive efficiency, dynamic efficiency and intertemporal efficiency

If our collective wants were not unlimited and if resources were infinite, scarcity would not exist as a central economic problem facing society. Sadly, this is not the case, so we are forced to make *choices* or *decisions* about how scarce resources are used or allocated.

1.4.1 The need for choice and decisions in allocating resources

Resource allocation involves making choices or decisions about how scarce natural, labour and capital inputs are to be used or distributed among competing areas of production. Resources have a host of possible uses. For instance, should resources be devoted to the production of childcare centres or freeways, to national defence or to primary production, or to the production of consumer goods or to making capital equipment? We must decide how to use our limited resources as *efficiently* as possible because *relative scarcity* means that we cannot have all the goods and services that we want. Given that we cannot have all things in unlimited quantities, individuals and nations are forced to make difficult choices between alternative or competing areas of production. This raises the problem of *opportunity cost*.

1.4.2 Opportunity cost and its role in deciding how resources are used or allocated

Opportunity costs arise out of the choices made by individuals and nations. When *all* available resources are fully and most *efficiently* used in production, a decision to produce more of one type of good or service means reduced production in some other area. This sacrifice in production is required to free up scarce resources. *The opportunity cost is therefore the cost of the benefit forgone or given up when resources are used in the production of the next best alternative good or service.*

Apart from the benefits forgone when resources are redirected, opportunity cost can also be measured in other ways. For instance, a particular choice may involve the cost in dollar terms, the cost in time and external costs — these are costs transferred or passed on to others (such as the cost to your neighbours of lost sleep when you decide to have a noisy party).

Opportunity cost is commonplace, for individuals as well as nations and governments.

- *Opportunity costs for individuals*; for example, your wise choice to use your time to study a great subject like economics may mean that you were forced to forgo having fun in, say, chemistry or biology. Alternatively, your decision to stay at school until the end of Year 12, so that you can benefit from tertiary study, may mean sacrificing income that you could have earned by having a fulltime job, along with the cost of paying your school fees.
- *Opportunity costs for nations and governments*; in 2019–20, for example, the Australian government planned to spend around \$32 billion on defence. While this decision has benefits and some of society's wants could be satisfied from it, it is a sobering thought to reflect on how these same resources could have been redeployed or reallocated. It is likely that welfare, childcare, health and industry assistance all suffered cutbacks because of this decision. Environmental opportunity costs also result from various economic activities in Australia, especially coal-generated power, product packaging, aspects of the timber industry, a transport system dependent on the private motor car, water usage and

irrigation-based agriculture in arid regions, and aviation and tourism. These activities are linked with the cost of accelerated global warming and serious climate change.

Perhaps you might like to consider the opportunity cost of a decision to allow expanded uranium mining in Kakadu National Park (Northern Territory), the proposed Adani Carmichael coal mine (Queensland), or further wood chipping in the Otways (Victoria) or in Tasmania. Given that a decision to produce one type of good or service can adversely affect the output of another, it is important that the production options are carefully weighed. Increasingly, firms and governments use *cost–benefit analysis* to assist them in making choices that minimise opportunity costs. Failure to consider such matters results in overall lower living standards than could otherwise be the case.

1.4.3 The production possibility diagram

The **production possibility diagram** is used by economists to better understand various concepts and ideas including the following:

- the basic economic problem of *relative scarcity*
- the concepts of *efficiency* and *inefficiency* in *allocating resources* and their connection with material living standards
- how a nation's *productive capacity* or ability to produce goods and services is limited at a point in time
- that careful *choices* must be made in deciding how resources are allocated and which needs and wants are to be satisfied
- all choices or economic decisions about the allocation of resources involve an *opportunity cost*
- how, over a period of time, a country's production levels or its economy may grow.

Constructing a production possibility diagram

In order to construct the *production possibility diagram* (PPD) shown in figure 1.6 illustrating the output choices available for a nation, we need to understand that it is based on some simplifying *assumptions*:

- It assumes that only *two* types of output can be produced by a nation — in this case, the country can produce *goods* or it can produce *services* (or perhaps some combination of the two).
- It is assumed that the nation *fully* uses its scarce natural, labour or capital resources to produce goods or services, so that no resources are unemployed, wasted or lying idle (since this would mean that the country was not operating at its capacity).
- At a point in time (e.g. 2020), it is assumed that the total *quantity* or volume of productive resources available for the nation is fixed or limited, although how these resources are allocated between the production of goods or the production of services (i.e. the product mix) can change.
- It is assumed that the nation uses the most *efficient* production methods now available or the best practice permitted by current technology.

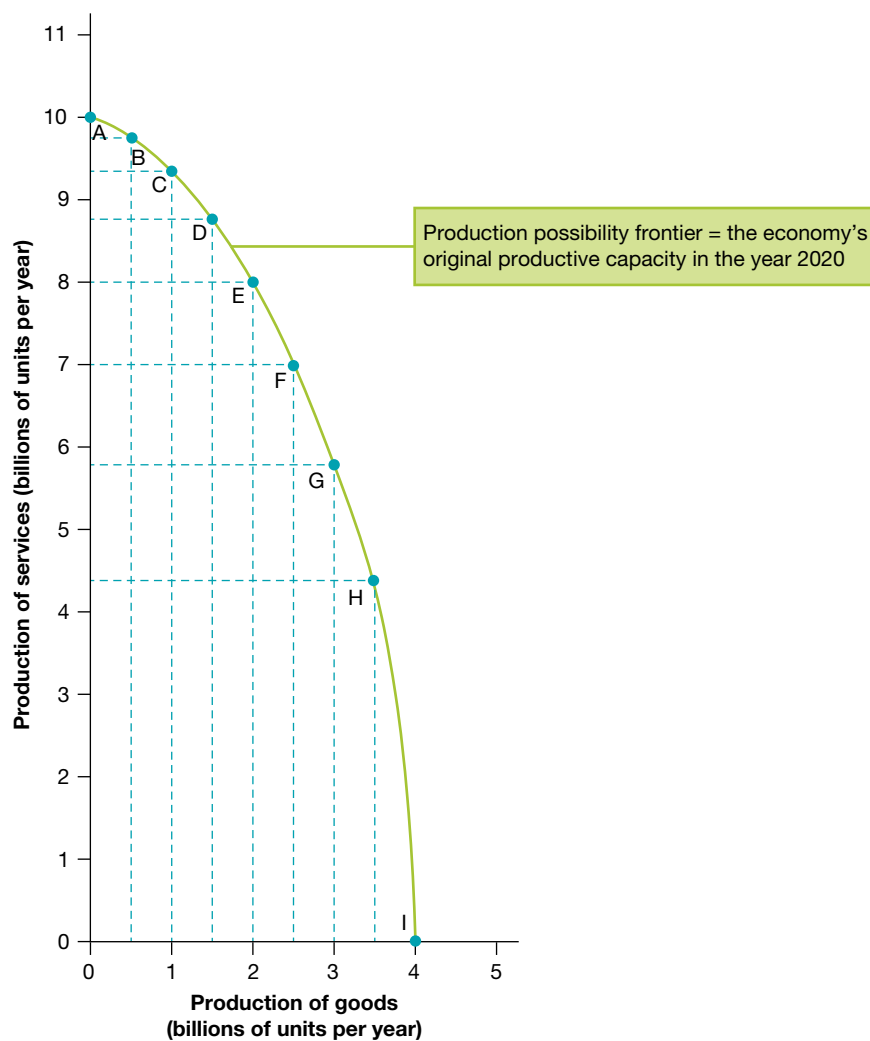
With these things in mind, let us now take a closer look at the PPD shown in figure 1.6.

Perhaps the first thing to note is that the PPD has *two* axes:

- The total quantity of *goods* produced is shown on the *horizontal axis* of the diagram.
- The total quantity of *services* produced is shown on the *vertical axis* of the diagram.

This PPD contains a *production possibility frontier* (PPF) for the country. This represents the *productive capacity* or a nation's potential output of goods and/or services for 2020, given the efficient and complete use of all resources. It hence marks the *current* boundary or border between *possible* and *impossible* production combinations of goods and/or services.

FIGURE 1.6 Production possibility diagram for the hypothetical country in 2020



Production combination	Production of services (billions of units per year)	Production of goods (billions of units per year)
A	10.0	0.0
B	9.8	0.5
C	9.4	1.0
D	8.8	1.5
E	8.0	2.0
F	7.0	2.5
G	5.8	3.0
H	4.4	3.5
I	0.0	4.0

The PPF has been drawn using the table of hypothetical data located at the foot of the diagram. Notice that there are nine *production possibilities* or combinations of goods and/or services (labelled A to I) from which this country could choose. However, whatever production possibility, product mix or point on the PPF is selected (e.g. point A or point I), there will always be an *opportunity cost*. By opportunity cost we mean that the production of one thing has to be forgone to produce more of the next best alternative. The scarcity of resources means that it is not possible for the nation to produce maximum quantities of goods (i.e. a limit of 4 billion units per year) and services (i.e. a limit of 10 billion units per year) at the same time.

For example, if production possibility A is chosen and the country produces 10 billion units of services annually, rather than selecting production possibility I, it is clear that the production of goods will have to be cut from 4 billion units a year to 0 units, so as to free up the necessary resources. Here, the opportunity cost of selecting point A rather than I is said to be 4 million units of goods. Notice too that as this gradual shift occurs — moving up and around the PPF from point I through points H, G, F, E, D, C and B, towards point A — the size of the opportunity cost of increasing the production of services gradually rises. It starts off small but progressively increases.

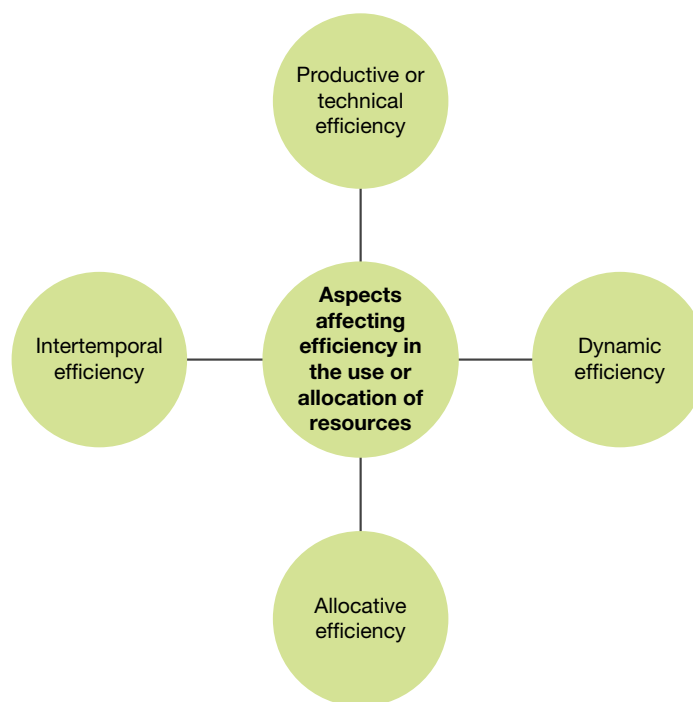
In reverse, if the nation chose point I rather than point A on the PPF, increasing the production of goods from 0 to 4 billion units each year would mean cutting the production of services from 10 billion units to 0 units. The opportunity cost of gaining 4 billion units of goods would be 10 billion units of services. Again notice that in this latter case, the opportunity cost of moving down around the PPF — from point A through points B, C, D, E, F, G and H, to I — would start off quite small and then progressively increase.

Showing an efficient allocation of resources that maximises living standards

An *efficient allocation of resources* (called **allocative efficiency**) is defined as a desirable situation where resources are used to produce particular types of goods and services that best maximise the overall satisfaction of society's needs and wants, wellbeing or living standards (both in the short and long terms). As mentioned already, all nine production possibilities (labelled A to I) making up the 2020 PPF shown in figure 1.6 could represent an *efficient* use of resources. We know this simply because for points on the PPF, output is at its limit. It is not possible for the country to increase its production of one thing without reducing the production of the other. So any particular product mix that is selected from those making up the PPF can potentially maximise the satisfaction of society's wants. Nevertheless, some of you may still question whether there is one output mix on the PPF that is superior or better than another. The answer is that all production possibilities (for instance, B, D or G) can potentially optimise society's general welfare, and that the final combination chosen depends on the personal values held by those making the decisions. However, what we can say is that a production point that is somewhere inside the PPF is using resources *inefficiently*. This will certainly limit the extent to which society's wants can be satisfied and lower material living standards.

Apart from *allocative efficiency* (using resources in ways that maximise society's satisfaction), figure 1.7 shows that there are also at least three other ways of describing **economic efficiency**:

FIGURE 1.7 Elements affecting efficiency in the use of Australia's scarce resources

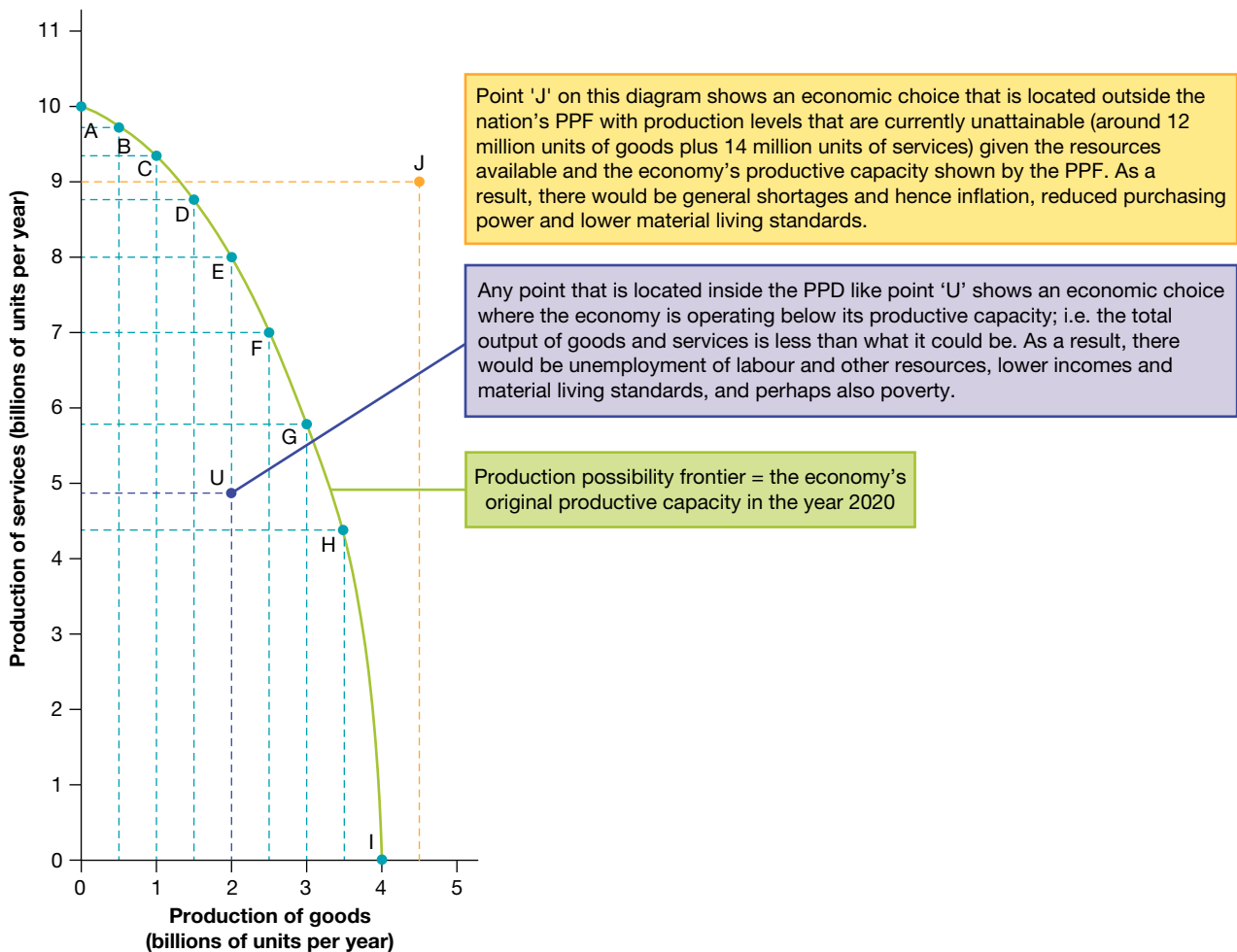


- *Productive or technical efficiency* implies using the lowest cost production methods, and minimising wastage of resources in making goods and services.
- *Dynamic efficiency* occurs when resources are reallocated quickly to increase choice and meet the changing needs of consumers.
- *Intertemporal efficiency* refers to finding the optimal balance between current consumption or the spending of income versus saving income to finance investment and hence future consumption.

Showing decisions or choices that result in average inefficiency and unemployment of resources

Earlier mention was made of the fact that if a nation chooses to produce at a point *inside* the PPF rather than somewhere on the PPF, this is regarded as an *inefficient* or wasteful use of resources, where there is *unemployment*. The shaded area inside the PPF in figure 1.8 shows this situation. The economy is clearly not operating at its capacity.

FIGURE 1.8 Using the production possibility diagram to show unemployment in an economy



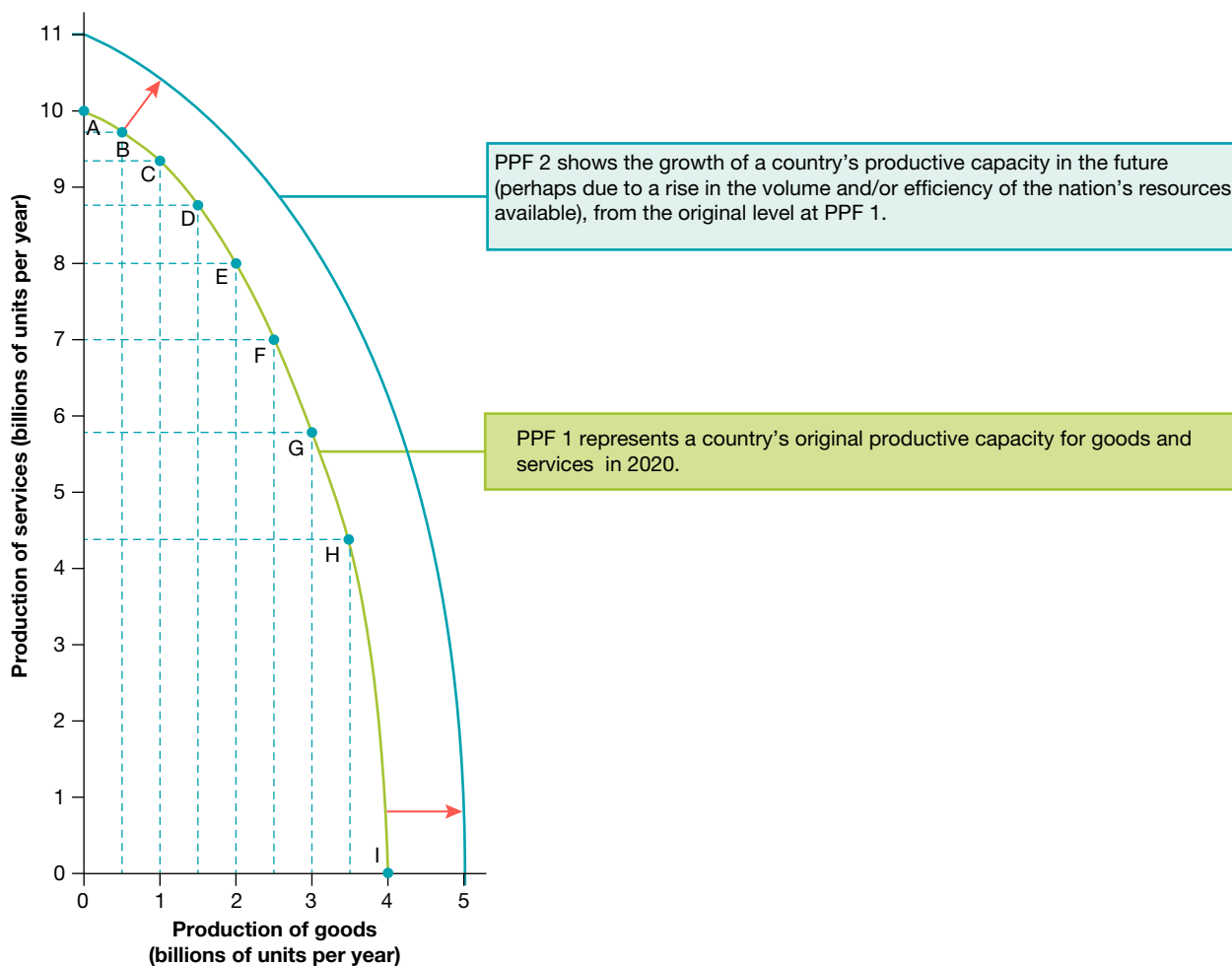
The total level of national output is lower than it could be and the combined production levels of both goods and services would be too low to ensure that all resources are fully employed. Here there would be unemployment of labour and other inputs, and material living standards would thus be reduced.

Increasing the nation's productive capacity and living standards

Any point on the diagram located somewhere *outside* the PPF involves national production levels that cannot be obtained *currently* because of the lack of resources available.

The economy simply does not have sufficient productive capacity. However, as shown in figure 1.9, if there was an increase in the volume and/or efficiency of productive resources available in the future, the whole PPF could grow and shift outwards from PPF1 to PPF2. The potential level of national output would rise and the country would experience economic growth and possibly, higher average material living standards.

FIGURE 1.9 Using the production possibility diagram to show the effect on a nation's productive capacity, of growing the volume and/or efficiency of resources available.



Over time, there are many things that could increase the volume and efficiency of a nation's resources and expanding the PPF. For example:

- a rise in foreign investment
- an increase in the target for skilled immigration
- discovery of new mineral deposits or other natural resources
- technological breakthroughs
- government spending on education and training of the labour force, or a rise in outlays on R&D
- rises in worker productivity or efficiency
- the building of new infrastructure such as roads, water and telecommunications.

These types of developments could grow the nation's productive capacity, enabling points originally outside the 2020 PPF, to now be attainable. In turn, it is quite possible that this outward shift of the PPF should help increase incomes and improve material living standards.

1.4.4 Influences on the choices or economic decisions made by individuals, businesses and governments

Individuals, businesses and governments make choices or economic decisions every day that take opportunity costs into account. Each group realises that its resources are scarce and hence all decisions made involve an opportunity cost — giving up one good or service in order to free up resources for an alternative use. In so doing, each group is influenced by many factors.

Choices and decisions by individuals

Individuals generally make decisions to maximise their overall satisfaction and to minimise their opportunity cost. For example, when you decide to go to the cinema, an opportunity cost might be that you can't go surfing or get take-away. These decisions made by individuals are based on many factors:

- limited level of disposable income
- personal tastes and beliefs
- advertising and fashions
- seasonal conditions
- rational and non-rational behaviour
- government policy decisions that alter consumer behaviour.

Choices and decisions by businesses

Businesses, too, make economic decisions or choices about how to use their resources. For example, there is a potential opportunity cost when a farmer decides to produce wheat rather than canola, or to buy new machinery. This sort of decision might reflect the following:

- production costs and profitability
- decisions of rival firms in their industry
- community feelings and opinions
- government decisions and policies that alter business behaviour.

Choices and decisions by governments

Governments also have to make choices or economic decisions involving the allocation of resources and opportunity costs. For instance, a decision to be more generous with welfare benefits for the neediest members of society or provide tax cuts to individuals or businesses, is likely to mean a reduction in resources available for schools or health or defence. Such decisions could be motivated by various considerations:

- political survival and election promises
- voter attitudes and expectations
- the political party's values
- a desire to correct problems that would otherwise occur if nothing was done.



Resources



Weblinks

- Scarcity
- Opportunity cost
- Production possibilities curve
- Shifting the production possibilities curve (PPC)
- Production possibilities curve (EconMovies 3: Monsters Inc)
- Introduction to economics

1.4 ACTIVITIES

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Check your understanding

1. Why is it necessary for society to make economic *choices* or decisions about production and resource allocation or use?
2. What is *opportunity cost* and why does it arise?
3. What general factors affect the overall size of a nation's *production possibility frontier*?
4. Explain what is meant by an *efficient* allocation of resources.

Applied economic exercises

1. Thinking of the production possibility diagram, explain what is meant by an economy's *productive capacity*. Explain the problems that arise when a nation is not operating at its *productive capacity*. (4 marks)
2. Because of the existence of *scarcity*, society is forced to make choices or decisions about how resources should be allocated or used between alternative uses. Give *two* examples of the typical choices made by each of the following, that result in opportunity costs:
 - (a) You as a VCE student
 - (b) Your parents
 - (c) Mining company, BHP
 - (d) The Australian government.(4 marks)
3. Distinguish the following pairs of terms:
 - (a) allocative efficiency and productive (technical) efficiency
 - (b) intertemporal efficiency and dynamic efficiency.(4 marks)
4. Examine table 1.2 showing annual production possibilities ('000 tonnes per year) for a country that can produce only wool or cotton with the resources available.

TABLE 1.2 Production possibilities for a country

Product	Production possibility A	Production possibility B	Production possibility C	Production possibility D
Wool ('000 tonnes per year)	0	10	30	35
Cotton ('000 tonnes per year)	25	20	10	0

- (a) Use these data to draw and fully label a production possibility diagram. (3 marks)
 - (b) Define what is meant by an *efficient allocation of resources*, giving examples referring to the data in table 1.2. (2 marks)
 - (c) Which production choices or possibilities are likely to enable the country to maximise its satisfaction using its available resources? Explain your reasoning. (2 marks)
 - (d) Calculate the *opportunity cost* for each of the following economic decisions:
 - i. producing 25 000 tonnes of cotton per year
 - ii. producing 35 000 tonnes of wool per year
 - iii. moving from production possibility B to possibility C.(3 marks)
5. In 2019–20, the Australian government planned to spend \$32 billion (6.4 per cent of budget outlays) on defence. Explain a likely opportunity cost arising from this decision. (2 marks)
 6. In recent years, the federal government has already reduced the rate of tax paid by small and medium-sized companies from 30 per cent to 27.5 per cent, and plans to cut rates further for these firms to 25 per cent in the next few years. Explain a likely opportunity cost arising from this decision. (2 marks)
 7. The federal government has paid cash subsidies to coal mining companies equal to around \$5 per tonne. Explain a likely opportunity cost arising from this policy decision. (2 marks)

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1.5 The nature and general effects of market structure in an economy

KEY CONCEPTS

- the nature of, and conditions for, a perfectly competitive market
- the effect of competitive markets on the efficiency of resource allocation

Australia has a contemporary **market capitalist economy** or **economic system**. Among other things, this means that most of the important *economic decisions* are made through the *operation of markets*, rather than through centralised government economic planning as still occurs in a few countries like North Korea. So what exactly do we mean when we refer to a ‘market’?

1.5.1 Definition and nature of markets

A **market** is an institution where *buyers* (consumers or demanders including households, businesses and governments) of goods and services, and *sellers* (producers or suppliers including businesses and governments) of goods and services, negotiate the **price** for each good or service. A market can exist in a particular physical location (such as the Queen Victoria Market) although, with the internet, buyers and sellers do not have to meet face to face. In Australia’s market economy, there are hundreds of different markets, each with buyers and sellers. Examples include the labour market, the capital or financial market, the foreign exchange market, the property market, the grocery market, the share market, the entertainment market, the fruit market, the fish market, the aviation market, and commodity markets such as those for wool, wheat, coal or iron ore.

Markets (in a capitalist economy like ours) are usually based on self-interest and competition. Typically the buyer wants to purchase a good or service at the lowest possible price, while the seller wants to sell at the highest price. As in a property auction, this process of price negotiation between buyers and sellers is one of trial and error, offer and counteroffer, until a mutually agreed market price is reached. The good or service will be sold to the buyer who is prepared to pay the highest price, by the seller who is prepared to accept the lowest price.

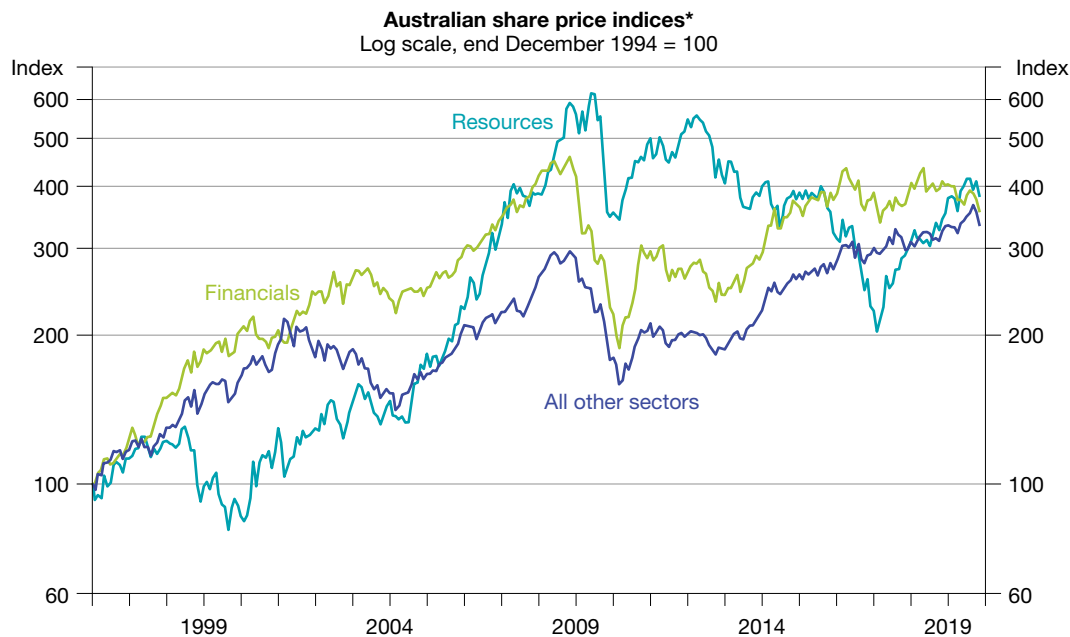
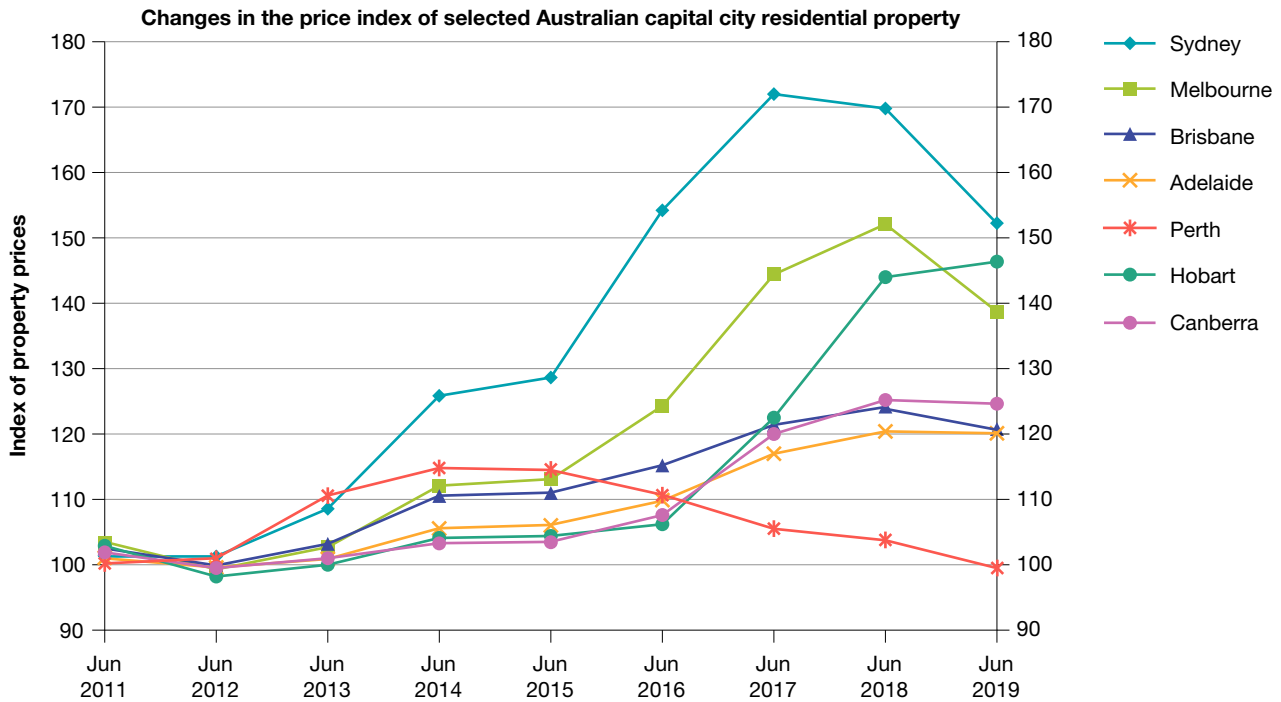
Over a period of time, the market price for a particular good or service might rise or fall relative to another. This is due to *changing conditions* that affect the decisions of buyers and sellers:

- If there are more buyers and/or fewer sellers, the market *price rises*.
- Conversely, if there are fewer buyers and/or more sellers, the market *price falls*.

Figure 1.10 illustrates the changeable level of prices (measured using price indexes against a base period where they were equal to 100 points) in Australia’s property and share markets in recent years. When market prices like these change, they generate *signals* that help owners of resources make important economic decisions.



FIGURE 1.10 How the market prices of Australian property and shares have changed in recent years



*ASX 200 companies

Source: Bloomberg; RBA.

Source: © Australian Bureau of Statistics.

1.5.2 Types of market structure

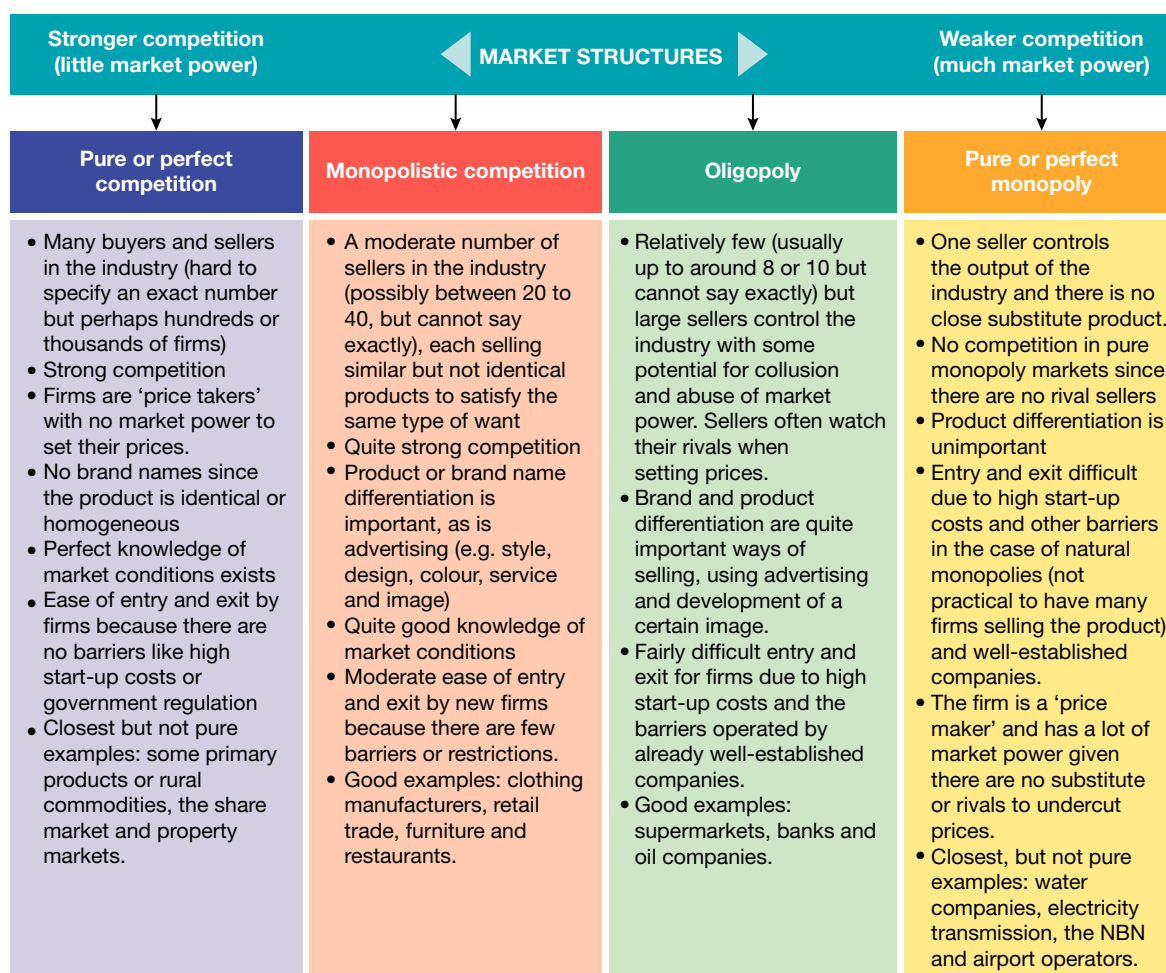
As institutions for making economic decisions, *markets* generally operate best or most efficiently when they are free or purely competitive. Perfect or pure competition involves rivalry between many firms in a particular market where each seller tries to undercut the price and exceed the product quality of the rival firm. However, this ideal situation is not always the case in our economy. Indeed, there are a variety of market structures. Here, the concept of **market structure** refers to the type of competition (**pure** or

perfect competition, monopolistic competition, oligopoly, and pure or perfect monopoly) that exists in a particular market. Indeed, markets are often characterised or distinguished by the following features:

- the *number of rival firms* operating in a market
- how much *market power* or control a particular firm has in affecting its level of prices
- the barriers or *ease of entry* or exit of firms
- the importance of product differentiation and advertising
- the accuracy and level of information or *knowledge* that exists about the market and its conditions.

There are *four* main types of market structure ranging from *pure competition* (many rival firms) at one extreme, through *monopolistic competition*, to *oligopoly* and *pure monopoly* (one seller that controls the market and sets prices) at the other extreme. Each structure has different characteristics (see figure 1.11).

FIGURE 1.11 The main types of market structure found in Australia reflect the level of competition and other features.



1.5.3 The nature of and conditions for a perfectly competitive market

As mentioned, markets usually work best if there is strong competition between sellers and between buyers.

However, in addition to this requirement, markets generally make better and more efficient decisions when more of the following *preconditions* are met:

- *Consumer sovereignty exists.* **Consumer sovereignty** means that consumers of goods and services, not governments, dictate how resources will be used. Consumers make individual decisions about the goods and services they choose to buy and those they choose to reject, and collectively these decisions determine how most of Australia's resources are allocated (nowadays about 80 per cent). This affects

relative prices and **relative profits** in different areas of production, and hence the decisions made by businesses. Consumer sovereignty is perhaps the most important precondition of a purely competitive market.

- *Firms have no market power or control over prices.* Because there may be hundreds or thousands of firms producing identical products with a miniscule share of the market, businesses have no market power and their actions are unable to influence prices. They are therefore *price takers* in a purely competitive market (unlike firms in a monopoly, who are *price makers*).
- *Firms have ease of entry or exit or no barriers.* In a purely competitive market, there should be great ease of entry by new firms wishing to start up, and ease of exit for existing firms to leave the market if they want to change the things they produce. Barriers to entry — like high start-up costs, licencing laws and bureaucracy, and restrictions by well-established firms — are minimal.
- *The products are homogeneous.* In a purely competitive market, it is assumed that the products sold in a market are homogeneous. This means they are identical and not differentiated using brand names, design differences or advertising. This may be hard for us to imagine but sections of primary industry such as grains, and perhaps a company's shares traded on the share market, come closest to the mark.
- *Resources are mobile.* When relative prices change in a market, resources will either be attracted to or repelled from that market, depending on what the change in price does to the level of relative profits. In a purely competitive market, it is assumed that resources are mobile. Mobile resources can be easily and quickly moved from one use to another.
- *Behaviour is rational and includes profit maximisation.* Owners of resources in a purely competitive market are assumed to engage in rational behaviour and want to maximise their profits or incomes. They do this by minimising production costs, producing things that are wanted by consumers, and selling these at the highest possible price. Consumers or buyers are also assumed to generally make decisions that are in their own self-interest.
- *There is perfect knowledge of the market.* Since buyers and sellers are guided by changes in relative prices, a market system can operate effectively only when buyers and sellers have perfect knowledge of the market and the goods being traded. Armed with this information, they can then make rational and *informed* decisions about how resources should be used, adding to improved satisfaction of wants and greater efficiency in the use of resources.

Looking at this formidable list, one would struggle to find examples of *purely* competitive markets that tick all the required boxes. However, there are some markets that come close and it is a useful theoretical starting point for further investigations into the operation of the market system.

1.5.4 The effect of competitive markets on efficiency in resource allocation

Most economists believe that a reliance on *competitive markets* to make key economic decisions, *generally* causes scarce resources to be used or allocated efficiently, thereby improving the extent to which society's needs and wants can be satisfied and its wellbeing maximised. There are several possible reasons for this:

Strong competition can lead to higher efficiency in resource allocation

Efficiency must be considered when decisions are made about how we should use our scarce resources so as to maximise the general satisfaction of society's wants and improve living standards. Efficiency means there is more national output gained from a given quantity of factor inputs. There are powerful reasons why efficiency is more likely to be at its highest when there is strong competition:

- With many rivals and no power to set prices, firms in competitive markets need to find ways to *cut costs* and to produce more with less. They are forced to have *allocative efficiency* to ensure they use their resources in ways that minimise the opportunity costs of their decisions.
- To survive, firms need to *innovate* by using the latest technology. This leads to *productive* or *technical efficiency*.

- Firms need to be even more *responsive* to rapid market shifts in fashions, products and customer requirements. This leads to increased *dynamic efficiency*.
- Strong competition in various markets can lead to *intertemporal efficiency* where there is the right balance between resources allocated for current consumption, as opposed to those set aside through saving and investment for future use.

As mentioned earlier, in competitive markets where there is strong competition, firms are forced to cut production costs and use resources more efficiently, so they gain more output from the same inputs. In turn, this can help to grow a nation's productive capacity, shifting the PPF outwards. This means that the potential levels of national output and hence income, should be higher than otherwise, possibly leading to improvements in average living standards.

Strong competition can lead to *lower prices and greater purchasing power of incomes*

Strong competition and rivalry between firms in various markets and industries is most likely to lead to higher efficiency (for the reasons already noted above), along with lower costs and prices for goods and services. Firms in competitive markets are *price takers* rather than *price makers*, so exploitation of consumers through artificially higher prices is impossible. As a result of lower prices, consumers will have more purchasing power and generally higher consumption levels and material living standards.

Strong competition can lead to *better quality goods and services and improved customer service*

In general, strong competition between firms to win over customers, along with improved efficiency, is likely to lead to the creation of better-quality products. After all, unhappy customers can choose from many other rival suppliers if they feel they are getting shonky items and poor service from staff. This too can help improve living standards.

Can *too much* competition be bad?

There are, however, some instances of where excessive competition can have negative effects:

- For example, aggressive cost cutting by profit-hungry rival firms struggling to survive (such as often occurs in aviation, manufacturing and food production) may, in the short-term, actually reduce public safety, product durability, quality assurance and customer satisfaction. Governments need to safeguard against these dangers when introducing policies to promote stronger competition such as some restrictions on take-overs and mergers.
- In addition, if there are many rival firms competing in a single market, it is likely that their size will be relatively small with low sales volumes. In turn, this may prevent a company from becoming efficient since business would be less likely to gain *economies of large-scale production* where *average unit costs* can be reduced as annual production levels are increased. For instance, these cost reductions or savings might be the result of buying resources more cheaply in bulk, using expensive technology that is only possible when producing on a big scale, spreading the costs of research, development and advertising, and using improved management systems.

Resources



Weblinks Introduction to market structures

Market structures

Oligopolies and game theory (EconMovies 8: The Dark Knight)

Efficiency and market failures (EconMovies 7: Anchorman)

1.5 ACTIVITIES

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Check your understanding

1. What type of economic system do we have in Australia and what are its main features?
2. Explain what is meant by a *market*.
3. What is meant by the term *market structure*? Show this diagrammatically.

Applied economic exercises

1. Clearly *distinguish* the following pairs of terms involving market structures and give typical examples of industries where these are found in Australia's economy:
 - (a) perfect (pure) competition and monopolistic competition
 - (b) oligopoly and perfect (pure) monopoly
 - (c) price maker and price taker
 - (d) homogeneous product and product differentiation
 - (e) ease of entry and barriers to entry. **(10 marks)**
2. (a) Because of the problem of relative scarcity, all countries must make economic decisions or choices. Identify and outline the *three* main choices or questions that all economies seek to answer. **(3 marks)**
 - (b) Identify and outline five important *preconditions* that must normally be met for a market to be regarded as *purely competitive*. **(5 marks)**
 - (c) How is the *price* of a particular good or service normally determined in a fairly competitive market, such as for property? **(2 marks)**
 - (d) Why would we normally expect a highly *competitive* market to be more efficient in allocating resources than a *monopoly* type market? Can monopoly markets sometimes be more efficient users of resources than competitive markets? **(4 marks)**
 - (e) Apart from generally being more efficient in allocating resources, identify and explain *two* other likely beneficial effects of competitive markets. **(2 marks)**
 - (f) For Australia, in what ways would the markets for groceries and banking be *different* from those for growing of grains and the trading of a company's shares? **(4 marks)**
 - (g) Why would Australia's clothing industry probably be regarded as a market where there is monopolistic competition, while those for water or the NBN would normally be seen as a monopoly market? **(2 marks)**

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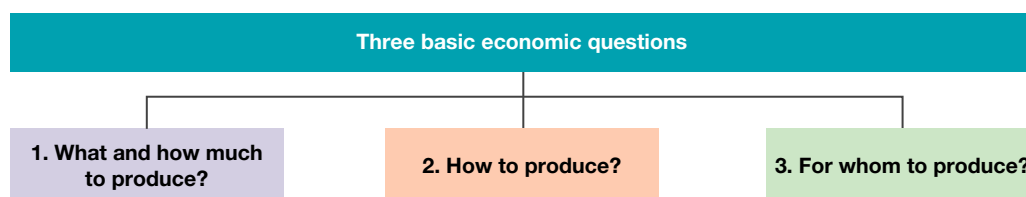
1.6 Microeconomics: the market as an important decision maker in Australia's economy

KEY CONCEPTS

- the law of demand and the demand curve including movements along, and shifts of, the demand curve
- the law of supply and the supply curve including movements along, and shifts of, the supply curve
- factors likely to affect demand and the position of the demand curve: changes in disposable income, the prices of substitutes and complements, preferences and tastes, interest rates, changes in population and consumer confidence
- factors likely to affect supply and the position of the supply curve: changes in the cost of production, technological change, productivity growth and climatic conditions
- the effects of changes in supply and demand on equilibrium prices and quantity traded
- the role of relative prices in markets on the allocation of resources and the effect on living standards

As discussed earlier, Australia has a *market capitalist economy*. Here, most of the important *economic decisions* are made through the free interaction of individual *buyers* and *sellers* of goods and services — in thousands of markets, 24 hours a day — rather than through centralised government economic planning.

There are *three key economic questions* (or decisions) that are largely answered through the operation of our *market system*:



1. *The ‘what and how much to produce’ question.* The market is used to make most decisions about the specific types and quantities of each good (such as chocolate bars, tourist accommodation, butter, guns) or service (such as education, health, finance, entertainment) that is to be produced.
2. *The ‘how to produce’ question.* The market helps to make decisions about the specific production method to be used by a business (the combinations of labour and capital equipment) in order to make each particular good or service, by establishing the price or cost of each resource or input used by firms.
3. *The ‘for whom to produce’ question.* The market helps to make decisions about how the nation’s goods, services and incomes will be shared or divided between members of society. Here, people’s incomes largely depend on the value of their economic contribution as valued by the market.

FIGURE 1.12 Australia has a market economic system or economy. This means that rising or falling prices in thousands of different markets, both in Australia and overseas, provide price signals or instructions to the owners of resources. Based on these price signals, the owners can make key economic decisions in order to help them maximise their profits and satisfy people’s wants. The share market is one of the markets used to help make decisions. Share prices can suddenly plunge, causing panic selling from investors wanting to get out of the market. Both rising and falling share prices will affect the investment decisions made by owners of financial resources.



1.6.1 An overview of how the market or price system operates as a decision-maker

In most economies around the world (including that for Australia), the *three* basic economic questions are answered through the operation of the market system where buyers and sellers negotiate to determine the price of each type of good or service. Figure 1.13 provides an overview of how the market system operates as a decision maker.

FIGURE 1.13 How Australia's price or market system makes key economic decisions and allocates resources.



With this general background in mind, we are ready to drill deeper into our study of microeconomics. Remember that *microeconomics* focuses on the behaviour of the smaller units (a consumer, single firm, an individual market, a particular industry) that make up our overall economy; what motivates their choices and what are the effects of their decisions. In contrast, *macroeconomics* (described in detail in topic 2) examines the combined decisions occurring in all markets that make up the overall economy and determine levels of national production, employment and inflation.

Our study of microeconomics will involve a closer look at:

- buyers and the law of demand
- sellers and the law of supply

- market equilibrium
- changes in market equilibrium due to new non-price conditions
- the allocation of resources.

Some of our analysis will involve the use of **demand–supply diagrams**. These are used to represent particular markets and the behaviour of buyers and sellers in them.

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

Buyers are a really important group in any market, given that there is *consumer sovereignty*. They **demand** or want to purchase various goods and services. This group might include consumers like you or me, businesses or even governments. Perhaps the most important thing to note is that buyers in a market are greatly affected by price. They are more willing to purchase a good or service at a lower price rather than at a higher price. This observation is expressed in the *law of demand*.

The law of demand

The **law of demand** states that the quantity of a particular good or service that buyers are prepared to purchase varies inversely (in the opposite direction) with the change in price. Hence:

- As the *price increases*, there is a *contraction* in the quantity demanded.
- As the *price decreases*, there is an *expansion* in the quantity demanded.

There are good reasons why consumers behave like this. For example, as the *price rises*, demand *contracts* because:

- the good or service becomes less affordable for most, and thus fewer people have the necessary money to spend on it
- the good or service becomes less desirable and the sacrifice or opportunity cost increases, thus reducing satisfaction and demand.

Drawing the demand line or curve

Using the table or schedule of hypothetical data for the demand of wool shown in figure 1.14, the relationship between the quantity demanded and the price can be illustrated diagrammatically.

- When the data for points A, B, C, D and E in the table are plotted on a graph (see figure 1.14), notice that the resulting *demand line* (also called a *demand curve*) falls downwards and to the right. It thus has a negative slope which visually illustrates the *law of demand*. Here it is worth noting that for simplicity, this basic demand line has been drawn *straight* rather than *curved* in shape, as might appear in reality. However, either way, the line or curve has a negative slope and visually illustrates the *law of demand*.
- A move *upwards along* the demand line (or curve) from point A and progressing through B, C and D to point E, is called a *contraction in demand* and is caused only by a *rise in price*. In this case, demand contracts from 25 000 million kilograms per year at a price of \$2 per kilogram (point A), to only 5000 million kilograms per year if the price rises to \$10 per kilogram (point E).
- In reverse, a move *downward along* the demand line (or curve) from point E and progressing through D, C and B to point A, is called an *expansion in demand* and is only caused by a *fall in price*. In this case, as the price falls from \$10 to \$2 per kilogram, there is an *expansion* in the quantity demanded from 5000 to 25 000 million kilograms.

It is really important to understand that these *movements along the demand line* or curve (called an *expansion* or *contraction* in the quantity demanded) are *only* caused by a change in *price*.

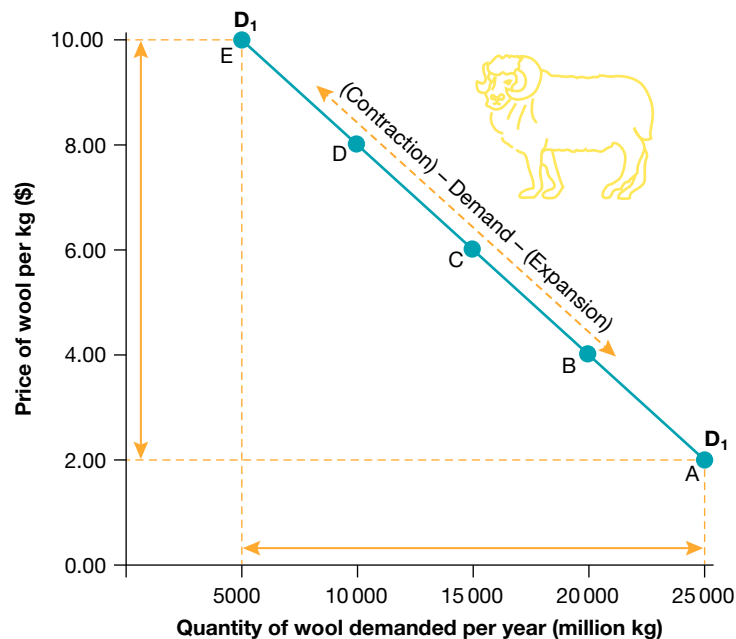
While our example here has been the demand for wool, the same sort of buyer behaviour could be expected for any other good (such as grapes, hot dogs, soft drinks, TVs or iron ore) or service (such as finance, medicine, skiing instruction, gardening or entertainment) in a fairly competitive market. Remember that ...

... movements *along* a demand line or curve illustrate the *law of demand*:

If there is a *rise* in price then demand *contracts*

If there is a *fall* in price then demand *expands*

FIGURE 1.14 The law of demand for wool and the demand line (or curve)



If the market price per kilogram of wool was ...	→	... then the quantity of wool demanded per year (D ₁) would be ...
A \$2.00/kg		25 000 million kg
B \$4.00/kg		20 000 million kg
C \$6.00/kg		15 000 million kg
D \$8.00/kg		10 000 million kg
E \$10.00/kg		5 000 million kg

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

Sellers are also an important group in any market. They sell or **supply** goods or services wanted by consumers. This group might include individuals, firms and governments. Price is perhaps the most important thing affecting suppliers. They are happier and more willing to produce and sell a good or service at a higher price rather than at a lower price. This observation is expressed in the *law of supply*.

The law of supply

The **law of supply** states that the quantity of a particular good or service that sellers are prepared to produce varies directly (in the same direction) with the change in price. Hence:

- As the price increases, there is an *expansion* in the quantity supplied.
- As the price decreases, there is a *contraction* in the quantity supplied.

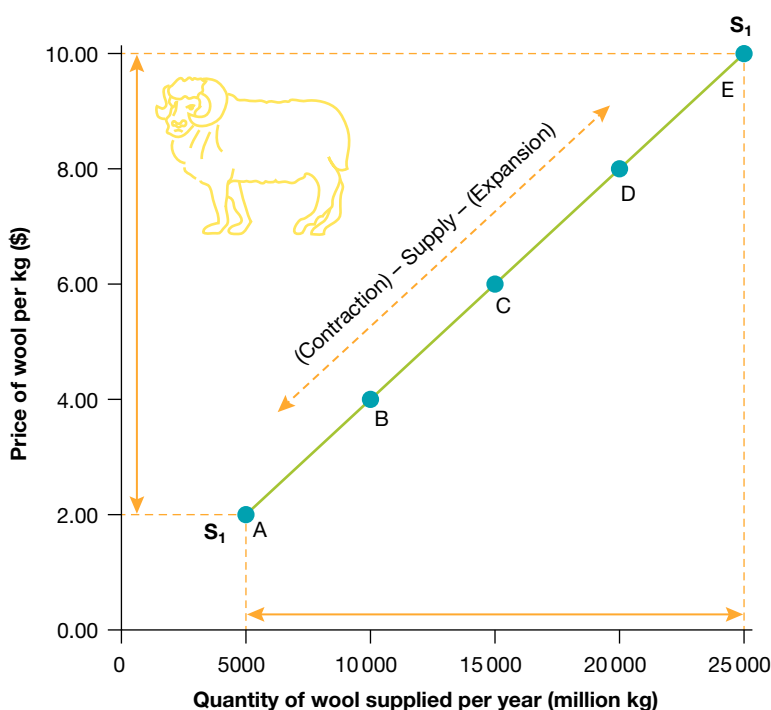
Again, there are good reasons why suppliers behave like this. For example, as the *price rises*, supply expands because:

- revenue normally increases, making the production of that particular good or service more attractive and profitable than if it is sold at a lower unit price
- firms are more confident and better able to cover any rises in their production costs
- the opportunity costs of producing another good or service rise, making it more profitable to reallocate resources away from other uses so that output can be increased, thus expanding supply.

Drawing the supply line or curve

Using the table or schedule of hypothetical data for the supply of wool shown in figure 1.15, the relationship between the quantity supplied and the price can be illustrated diagrammatically.

FIGURE 1.15 The law of supply for wool and the supply line



If the market price per kilogram of wool was ...		→	... then the quantity of wool supplied per year (S_1) would be ...
A	\$2.00/kg		5000 million kg
B	\$4.00/kg		10 000 million kg
C	\$6.00/kg		15 000 million kg
D	\$8.00/kg		20 000 million kg
E	\$10.00/kg		25 000 million kg

- When the data for points A, B, C, D and E in the table are plotted on a graph (see figure 1.15), the resulting supply line (also called a *supply curve*) slopes up and to the right. It thus has a positive slope which visually illustrates the law of supply. Here it is again worth noting that for simplicity, this basic supply line has been drawn *straight* rather than *curved* in shape, as might appear in reality. However, either way, the line has a positive slope and visually illustrates the *law of supply*.

- A move upwards along the supply line (or curve) from point A and progressing through B, C and D to point E, is called an *expansion in supply* and is caused only by a *rise in price*. In this case, supply *expands* from 5000 million kilograms per year at a low price of \$2 per kilogram (point A), to a huge 25 000 million kilograms per year if the price rises to \$10 per kilogram (point E).
- In reverse, a move downward along the supply line (or curve) from point E and progressing through D, C and B to point A, is called a *contraction in supply* and is only caused by a *fall in price*. In this case, as the price falls from \$10 to \$2 per kilogram, there is a *contraction* in the quantity supplied from 25 000 million to just 5000 million kilograms per year.

Again, it is really important to understand that these *movements along the supply line or curve* (called an *expansion* or *contraction* in the quantity supplied) are caused solely by a change in *price*.

While our example here has been the supply for wool, the same sort of seller behaviour could be expected for any other good (such as grapes, hot dogs, soft drinks, TVs or iron ore) or service (such as finance, health, education, gardening or entertainment) in a fairly competitive market. Remember that ...

... movements *along a supply line or curve* illustrate the *law of supply*:

If there is a *rise in price* then *supply expands*

If there is a *fall in price* then *supply contracts*

1.6.4 Determining the market equilibrium price and quantity traded

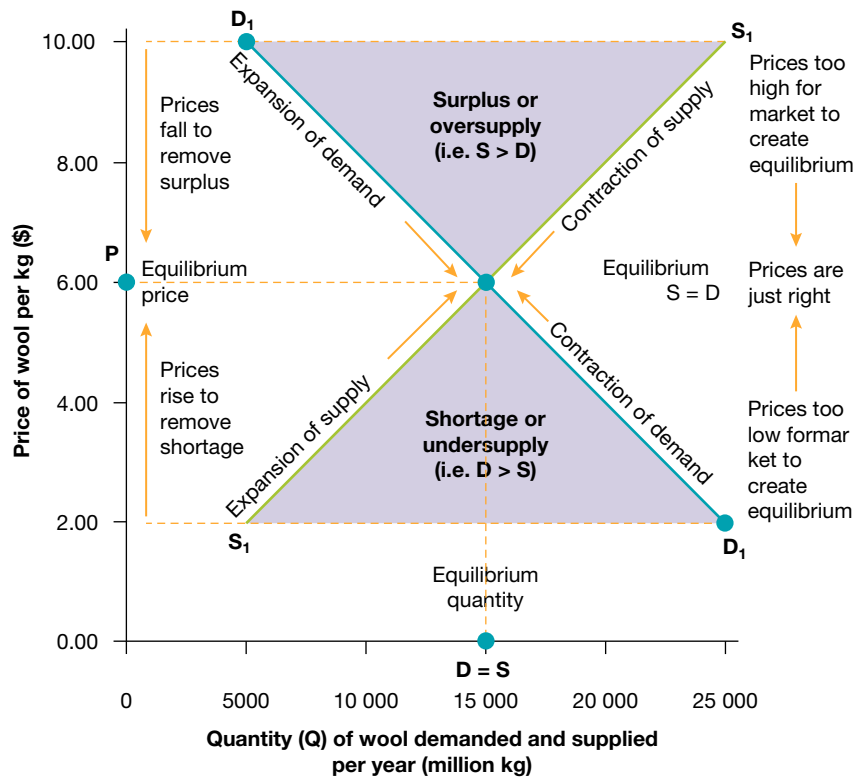
As we have seen, buyers prefer to purchase at a relatively low price, while suppliers prefer to sell at a relatively high price. This apparent conflict of interest is resolved by the operation of a competitive market. Indeed, there is only one price on which both buyers and sellers agree and are reasonably satisfied. This is called the *equilibrium market price*. At **equilibrium**, *the quantity demanded exactly equals the quantity supplied for a given period of time*. There is *neither* a **market glut** putting downward pressure on price, nor a **market shortage** putting upward pressure on price.

As seen in figure 1.16, apart from the equilibrium price of \$6 per kilogram (row C in the table), there is no alternate market price where this compromise can occur. Only at this price is both the quantity demanded and the quantity supplied exactly *equal* to 15 000 million kilograms per year. Both buyers and sellers are happy with the deal and the market is nicely cleared of either a *shortage* or a *surplus*.

The process of actually reaching market equilibrium is a simple one.

- *At prices below equilibrium.* At a very low price of say \$2 per kilogram (see row A in the table), equilibrium cannot occur simply because 25 000 kilograms per year are demanded yet only 5000 kilograms are supplied at that price. An exceedingly low price like this creates a *market shortage* of 20 000 million kilograms, making buyers very unhappy. In order for this shortage to be resolved, the price of wool needs to *rise*. As the price moves upwards, there is a *contraction along the demand line* as well as an *expansion along the supply line* (the laws of demand and supply apply) until this shortage disappears and the market reaches the *equilibrium* point where the quantities demanded and supplied are exactly *equal*.
- *At prices above equilibrium.* Equilibrium is also not possible at an excessively high price of \$10 (see row E in the table). The problem here is a *market surplus* or glut of 20 000 million kilograms. This arises due to a demand of only 5000 million kilograms compared with a supply of 25 000 kilograms at that price. Sellers would be most unhappy. In a free and competitive market, this problem would soon disappear as the market price decreased. As this happens, *demand would expand* and *supply would contract*, restoring *equilibrium* where the quantities demanded and supplied were again exactly *equal*.

FIGURE 1.16 A demand–supply graph showing how the free operation of market forces determines the equilibrium price of wool



Possible market price per kilogram	Quantity of wool demanded (D_1) per year (million kg)	Quantity of wool supplied (S_1) per year (million kg)	Market situation and direction of pressure on market prices
A \$2.00	25 000	5000	Market shortages/prices rise
B \$4.00	20 000	10 000	Market shortages/prices rise
C \$6.00	15 000	15 000	Market equilibrium/prices stable
D \$8.00	10 000	20 000	Market surplus/prices fall
E \$10.00	5000	25 000	Market surplus/prices fall

In our analysis so far, we have seen that market forces involving demand and supply for wool determine the actual *equilibrium price* and *quantity* traded. However, the same explanation would apply to the price paid for any type of good or service in a competitive market — whether for oranges, property, company shares, an airfare, a plumber, a soft drink or a hamburger. All competitive markets operate the same way.

1.6 ACTIVITIES

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Check your understanding

1. What are demand–supply diagrams?
2. In a market, what is demand? Explain the law of demand.
3. When graphed, describe the features of the demand line.

4. Explain the difference between an *expansion* in demand and a *contraction* in demand.
5. In a market, what is supply? Explain the law of supply.
6. When graphed, describe the features of the supply line.
7. Explain the difference between an *expansion* in supply and a *contraction* in supply.
8. What is market equilibrium?

Applied economic exercises

1. Examine table 1.3 showing the schedule relating to the demand and supply for coffee beans in a competitive market and answer the questions that follow.

TABLE 1.3 Schedule showing the demand and supply of coffee beans in a competitive market

Price of coffee beans per kilo	Quantity of coffee beans demanded in kilos (D_d)	Quantity of coffee beans supplied in kilos (S_s)
\$4.00	1600	200
\$6.00	1400	400
\$8.00	1200	600
\$10.00	1000	800
\$12.00	800	1000
\$14.00	600	1200
\$16.00	400	1400

- (a) Describe the *law of demand* for coffee beans, quoting information from the table. **(2 marks)**
- (b) Describe the *law of supply* for coffee beans, quoting information from the table. **(2 marks)**
- (c) Use this table of data to accurately construct and fully label a demand–supply diagram representing the market for coffee beans. **(3 marks)**
- (d) Assume that the market for coffee beans is a perfectly competitive one. On the diagram you have drawn, clearly identify and label the *equilibrium price* and *equilibrium quantity* traded. In addition, clearly explain what is meant by the term ‘equilibrium’. **(2 marks)**
- (e) Quoting information from the table, explain the *type of situation* that exists in the market for coffee beans, at each of the following prices:
 - i. \$4.00 per kilo
 - ii. \$11.00 per kilo
 - iii. \$16.00 per kilo.**(3 marks)**

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1.7 The effects of changes in demand and supply conditions on market equilibrium and the allocation of resources

KEY CONCEPTS

- factors likely to affect demand and the position of the demand curve: changes in disposable income, the prices of substitutes and complements, preferences and tastes, interest rates, changes in population and consumer confidence
- the effects of changes in supply and demand on equilibrium prices and quantity traded
- the role of relative prices in markets on the allocation of resources and the effect on living standards
- factors likely to affect supply and the position of the supply curve: changes in the cost of production, technological change, productivity growth and climatic conditions

Looking around us, we notice that the prices of most goods and services are always changing from week to week, day to day, and even hour to hour. This is the result of changes in the *quantity* of a good or service that *buyers* are prepared to demand or purchase *at any given price*, or changes in the *quantity* of a good or service that *sellers* are prepared to produce or supply *at any given price*. We will see that these changes in buyer and seller behaviour are the result of new *conditions of demand* and/or new *conditions of supply*. These conditions *shift* the position of the whole demand and/or supply line (or curve) at any given price horizontally to the right or left of the original lines.

- Changing microeconomic *demand-side conditions* can cause *buyers* to purchase a greater or smaller quantity of a particular good or service at all possible prices. This will *shift* the position of the whole demand line either to the right of the original line (showing an *increase in demand at a given price*) or to the left (showing a *decrease in demand at a given price*).
- Changing microeconomic *supply-side conditions* can cause *sellers* to produce a greater or smaller quantity of a particular good or service at all possible prices. This will *shift* the position of the whole supply line either to the right of the original line (showing an *increase in supply at a given price*), or to the left (showing a *decrease in supply at a given price*).

By altering the position of the demand line and/or the supply line, changes in *non-price demand–supply conditions* will bring about a change in *relative prices* (the price level of a particular good or service relative to that of another). This has a knock-on effect by altering the *relative profitability* of producing a particular good or service, causing scarce resources to then be reallocated among competing uses by their profit-seeking owners.

1.7.1 Non-price factors that affect the position of the demand curve and market equilibrium

There are *non-price* microeconomic factors or **conditions of demand**. These conditions might either increase or decrease the quantity of a particular good or service that buyers are prepared to *demand at a given price*, leading to either an increase or a decrease in the demand line on the demand–supply diagram. These conditions that shift the position of the *demand line* or curve at a given price might include the following:

- *Changes in disposable income*. In general, having more disposable income (such as after a pay rise, an increase in welfare benefits or a tax cut) tends to increase the demand for particular types of goods and services at any given price. By contrast, a cut in disposable income generally lowers the quantity

demanded at all possible prices. However, there are exceptions. For instance, a cut in disposable income might actually increase the demand for lower quality substitutes (inferior goods) to replace the more expensive ones (superior goods).

- *Changes in population size and age distribution.* Generally, a rise in population will increase the demand for most types of goods and services at a given price, whereas a decline in population would be expected to reduce demand. Australia's population is ageing, with a larger proportion of people in older age groups relative to younger age groups. This has mixed effects — increasing the demand for some things (such as aged care) but decreasing the demand for other things (such as nappies and children's games). Similarly, the population shift towards capital cities has meant a rise in the demand for goods and services in the cities and a fall in demand in rural and regional areas.
- *Changes in fashions and tastes.* Over time, some goods and services become more fashionable and wanted. Technology and the advertising of new products (such as for the latest digital devices and trendy clothing) play an important role in increasing the demand at a given price. By contrast, other things become obsolete and face a falling level of demand by consumers.
- *Changes in interest rates on borrowed money.* Some people and businesses need to borrow money (known as credit) from banks and pay interest on that money in order to finance their spending. Expensive items like houses, cars and holidays are especially sensitive to changes in interest rates. Generally, higher interest rates will lower the demand at a given price for these types of goods and services, while lower interest rates tend to increase demand. Interest rates on credit card balances can also have some effect on the demand line for such products.
- *Changes in the price of substitutes.* Substitutes are a particular good or service that can be easily replaced by another. Margarine, for instance, can be a substitute for butter, and cotton can be a substitute for wool. When the price of the original product being purchased goes up, buyers sometimes switch to a cheaper substitute. This decreases the demand for the original item at a given price but increases the demand for the substitute.
- *Changes in the price of complementary goods and services.* Complementary goods and services are those used or bought at the same time. For example, the purchase of a new car also leads to an increase in the demand for fuel, tyres, motor mechanics, accident repairers and roads. Hence when the price of a car rises, the demand for complementary goods and services is likely to decrease.
- *Changes in the levels of consumer and business confidence.* Confidence levels relate to how households and businesses feel about their future economic situations and conditions. This affects whether they spend or save, which in turn will affect the level of demand for particular types of goods and services. Recent pessimism about the future has been reflected in a slower rise or even a decline in the demand for some goods (new cars and household items, and new business equipment) and services (entertainment and holidays).
- *Changes in the seasons.* In summer, the demand rises for products such as ice cream, surfboards and air conditioners, while the onset of winter might see a rise in the demand for products such as snow skis, cough medicine, electric blankets, footballs and woollen jumpers.
- *Changes in government policy and regulations.* Governments sometimes find it necessary to affect the demand for particular goods and services. They might do this through spending outlays and taxes in the budget, or through legislation. For instance, government spending on transport might generate a rise in the demand for building and road-making materials, along with the demand for workers. Cash subsidies can be used to encourage households or businesses to increase their demand for some items like solar panels or rainwater tanks. Alternatively, bans, taxes or restrictions on consumption can be used to reduce the demand for socially undesirable goods and services.

The effect of a decrease in the quantity demanded at a given price

When the *conditions of demand weaken* or become weaker, this decreases the *quantity* of a particular good or service that buyers are willing to purchase *at any given price*. As a result, the whole demand line for the market will shift inwards and to the left of the original line.

Let us return to the example of the wool market shown in figure 1.17 (diagram A). When the *quantity* of wool demanded at all possible prices *decreases* because of new weaker conditions (perhaps due to the onset of summer or the availability of cheaper substitutes), this shifts the position of the whole demand line inwards and to the left, from D_1 to D_0 . As a result, the equilibrium price of wool falls from \$6 (at P_1) to just \$5 a kilogram (at P_0). This fall in the equilibrium price is necessary to clear the *market glut* or surplus (note the small shaded triangular area where the quantity supplied exceeds the quantity demanded) that would exist if the price had remained at \$6. As the price drops towards \$5, demand *expands* and supply *contracts* (the operation of the laws of demand and supply) until the new lower equilibrium price (P_0) is reached where demand again equals supply. Notice also that there is a fall in the equilibrium quantity from 15 000 (at Q_1) to 12 500 million kilograms a year (at Q_0). These new equilibria will prevail in the market unless the *conditions of demand* again change.

The effect of an increase in the quantity demanded at a given price

When the *conditions of demand strengthen* and increase the *quantity* of a particular good or service that buyers are willing to purchase *at any given price*, the whole demand line for the market will shift out and to the right of the original line.

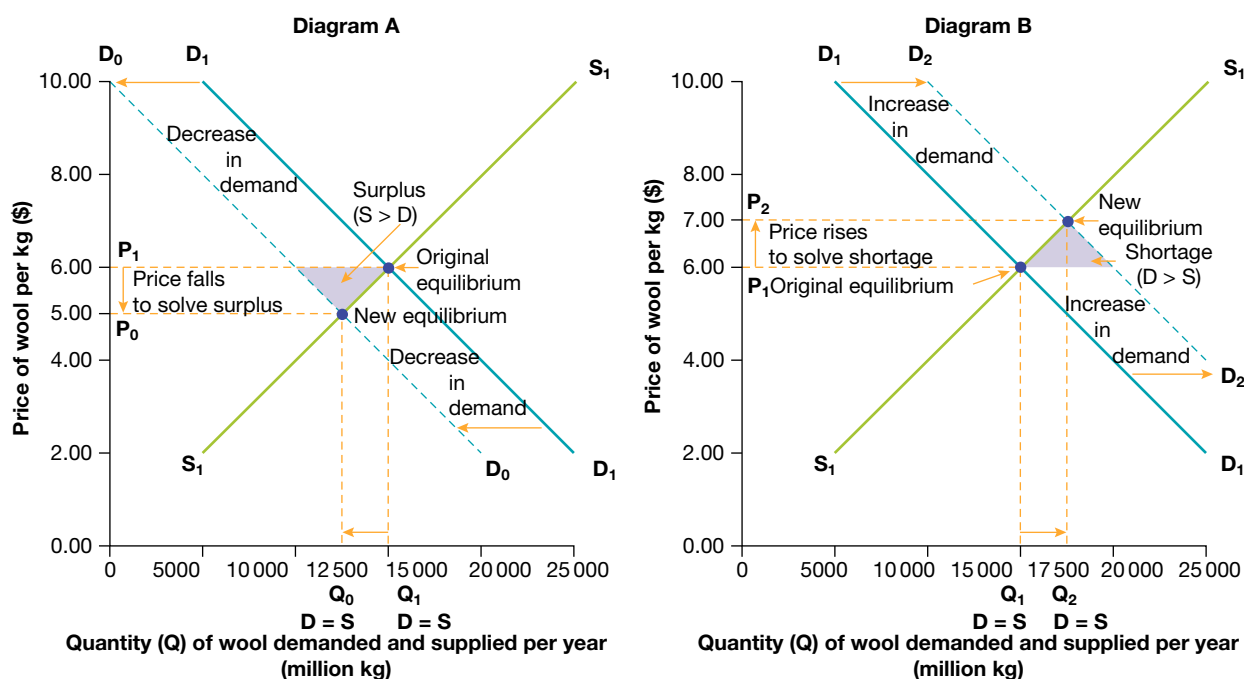
Again, let us return to the example of the wool market shown in figure 1.17 (diagram B). When the quantity of wool demanded at all possible prices *increases* because of new stronger conditions (perhaps due to a new fashion trend favouring long woollen dresses rather than miniskirts, or a rise in disposable income), this *shifts the position* of the whole demand line from D_1 to D_2 . As a result, the equilibrium price of wool rises from \$6 (at P_1) to \$7 a kilogram (at P_2). This rise in the equilibrium price is necessary to clear the *market shortage* (note the small shaded triangular area where the quantity demanded exceeds the quantity supplied) that would exist if the price had remained at \$6. As the price rises towards \$7, demand *contracts* and supply *expands* (the operation of the laws of demand and supply) until the new higher equilibrium price (P_2) is reached where demand again equals supply. Notice also that there is a rise in the equilibrium quantity from 15 000 (at Q_1) to 17 500 million kilograms a year (at Q_2). These new equilibria will prevail in the market unless the *conditions of demand* again change. Remember that ...

... **shifts in the position of the whole demand line or curve are due to changes in non-price demand conditions:**

Stronger demand conditions cause an increase the quantity demanded at a given price
(e.g. D_1 to D_2 at P_1)

Weaker demand conditions cause a decrease the quantity demanded at a given price
(e.g. D_1 to D_0 at P_1)

FIGURE 1.17 Graphs showing how changed market conditions that increase or decrease the demand for wool affect the equilibrium market price.



A decrease in demand, i.e. D_1 → D_0 above

This may be the result of weaker demand conditions:

- reduced disposable income
- less fashionable product or seasonal changes
- lower price of substitutes
- future availability assured
- higher taxes
- reduced population or number of consumers
- higher interest rate on borrowed credit.

An increase in demand, i.e. D_1 → D_2 above

This may be the result of stronger demand conditions:

- increased disposable income
- more fashionable product or seasonal changes
- higher price of substitutes
- future availability at risk
- lower taxes
- increased population or number of consumers
- lower interest rate on borrowed credit.

Possible price (\$) per kg for wool	Original quantity of wool demanded (D_1) per year (million kg)	Original quantity of wool supplied (S_1) per year (million kg)	A decrease in the quantity of wool demanded at a given price (D_0) per year (million kg)	An increase in the quantity of wool demanded at a given price (D_2) per year (million kg)
A \$2.00	25 000	5 000	20 000	30 000
B \$4.00	20 000	10 000	15 000	25 000
C \$6.00	15 000	15 000	10 000 (the equilibrium price must fall to \$5.00 a kg)	20 000 (the equilibrium price must rise to \$7.00 a kg)
D \$8.00	10 000	20 000	5 000	15 000
E \$10.00	5 000	25 000	0	10 000

1.7.2 Non-price factors that affect the position of the supply curve and market equilibrium

Just as buyers react to changing non-price circumstances, sellers also respond to various non-price microeconomic factors or **conditions of supply**. These conditions might either increase or decrease the *quantity* of a particular good or service that sellers are prepared to supply *at any given price*, leading to

either an increase or a decrease in the supply line shown on the demand–supply diagram. There are several common *microeconomic supply-side conditions* that can *shift* the position of the whole supply line:

- *Changes in the cost of resources used by businesses.* Businesses need to purchase resources (natural, labour and capital) in order to make goods and services. These purchases represent production costs. When the cost of resources increases — such as wage and other on-costs for staff like compulsory superannuation contributions; or the cost of utilities, raw materials and interest rates charged on business overdrafts — these are seen as less favourable supply-side conditions. They decrease the amount firms are willing to supply at a given price. By contrast, when the cost of resources falls, this is more favourable. Firms are now prepared to increase their supply of a good or service.
- *Changes in the application of new technology affecting productivity growth.* The use of new technology in an industry (such as automated warehouses, robotics and online trading) often lifts efficiency and therefore cuts unit production costs. This usually makes firms more willing and able to increase their supply at a given price.
- *Changes in business profitability and bankruptcy rates.* If bankruptcy rates in an industry fall or profitability rises, businesses become more willing to increase supply at a given price. However, increased bankruptcies and reduced profits are likely to produce a decrease in supply at a given price.
- *Changes in climatic conditions affecting production.* Climatic conditions affect rural and mineral suppliers. For instance, recent cyclones and floods in parts of Queensland reduced the supply of particular fruit and vegetable crops. They also forced the closure of flooded mines and destroyed infrastructure needed to transport minerals to terminals. Climate change such as the 2012–18 drought in parts of northern and eastern Australia also decreased the supply of certain commodities. By contrast, favourable weather conditions will increase the supply of some commodities at a given price.
- *Changes in government assistance to business or tax rates.* On the one hand, governments provide financial assistance to businesses operating in some manufacturing industries, along with funding for private schools and hospitals. This assistance helps businesses in these industries to cover some of their costs and makes them more profitable, thereby increasing supply. On the other hand, the government also levies taxes on goods sold and on the incomes of households and companies. This taxation tends to decrease the supply of particular goods and services.

The effect of a decrease in the quantity supplied at a given price

When the *conditions of supply weaken*, there is a *decrease in supply* (the quantity of a particular good or service that sellers are willing to produce or sell *at any given price*). As a result, the whole supply line for the market will shift inwards and to the left of the original line.

Let us again return to the example of the wool market shown in figure 1.18 (diagram A). When the quantity of wool supplied at all possible prices *decreases* because of new, weaker, less favourable conditions (perhaps reflecting the effects of severe drought or higher production costs for farmers), this shifts the position of the whole supply line outwards and to the left, from S_1 to S_0 . As a result, the equilibrium price of wool *rises* from \$6 (at P_1) to \$7 a kilogram (at P_0). This rise in the equilibrium price is necessary to clear the *market shortage* (note the small shaded triangular area where the quantity demanded exceeds the quantity supplied) that would exist if the price had remained at \$6. As the price rises towards \$7, supply *expands* and demand *contracts* (the operation of the laws of demand and supply) until the market comes to rest at the higher equilibrium price (P_0). In addition, the equilibrium quantity falls from 15 000 (at Q_1) to 12 500 million kilograms a year (at Q_0). These new equilibria will prevail in the market unless the *conditions of supply* again change.

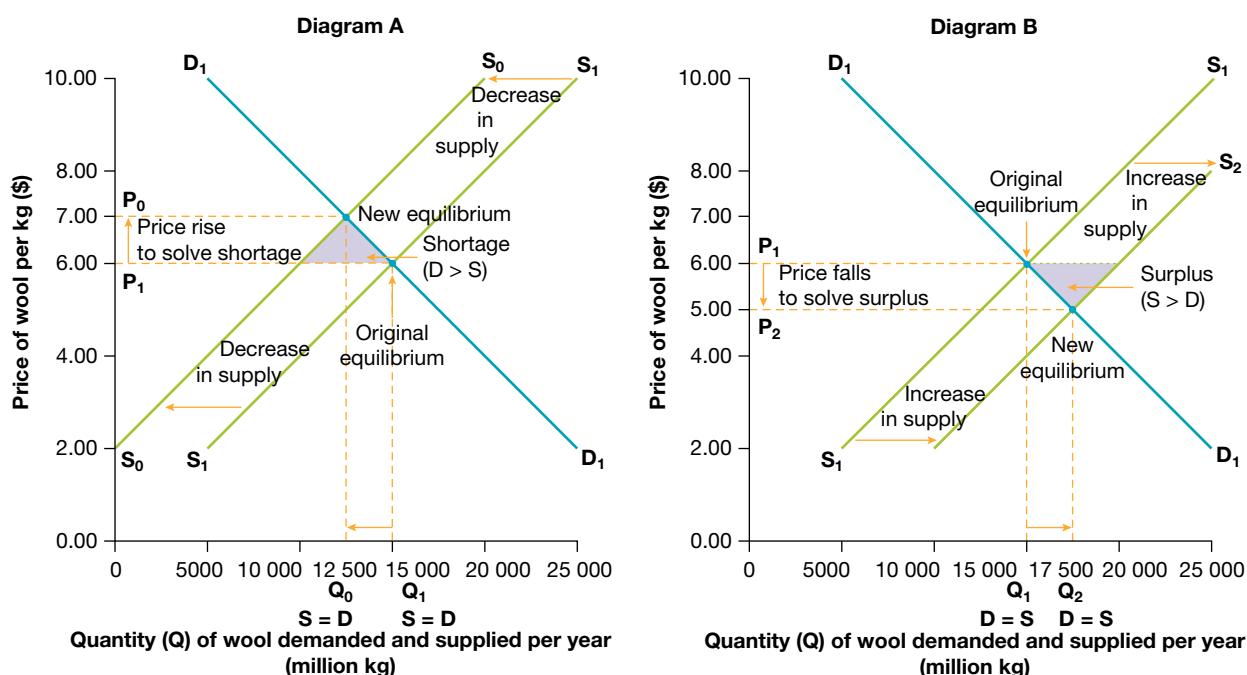
The effect of an increase in the quantity supplied at a given price

When the *conditions of supply strengthen* or become more favourable, there is an *increase in supply* (a rise in the quantity of a particular good or service that sellers are willing to produce *at any given price*). The whole supply line for the market will shift down and to the right of the original line.

Again, let us return to the example of the wool market shown in figure 1.18 (diagram B). When the *quantity* of wool supplied at all possible prices *increases* because of new, more favourable conditions

(perhaps reflecting the effects of ideal climatic conditions and plenty of feed for stock, or lower costs and better profits for farmers), this *shifts the position* of the whole supply line out and to the right from S_1 to S_2 . As a result, the equilibrium price of wool *falls* from \$6 (at P_1) to just \$5 a kilogram (at P_2). This fall in the equilibrium price is necessary to clear the *market glut* or surplus (note the small shaded triangular area where the quantity supplied exceeds the quantity demanded) that would exist if the price had remained at \$6. As the price falls towards \$5, supply *contracts* and demand *expands* (the operation of the laws of

FIGURE 1.18 Graphs showing how changed market conditions that decrease or increase the supply of wool affect the equilibrium market price.



A decrease in supply, i.e. $S_1 \longrightarrow S_0$ above

This may be the result of weaker supply conditions:

- reduced profitability
- increased production costs
- less efficient technology
- adverse climatic conditions
- fewer producers, sellers or firms
- reduced producer preference and expectations
- obstacles to production like a new tax.

An increase in supply, i.e. $S_1 \longrightarrow S_2$ above

This may be the result of stronger supply conditions:

- increased profitability
- decreased production costs
- more efficient technology
- favourable climatic conditions
- more producer, sellers or firms
- increased producer preference and expectations
- inducements to production like a subsidy.

Possible price (\$) per kg for wool	Original quantity of wool demanded (D_1) per year (million kg)	Original quantity of wool supplied (S_1) per year (million kg)	A decrease in the quantity of wool supplied (S_0) per year (million kg)	An increase in the quantity of wool supplied (S_2) per year (million kg)
A \$2.00	25 000	5 000	0	10 000
B \$4.00	20 000	10 000	5 000	15 000
C \$6.00	15 000	15 000	10 000 (price must rise to \$7.00 per kg)	20 000 (price must fall to \$5.00 per kg)
D \$8.00	10 000	20 000	15 000	25 000
E \$10.00	5 000	25 000	20 000	30 000 not graphed

demand and supply) until the market comes to rest at the lower equilibrium price (P_2). In addition, the equilibrium quantity rises from 15 000 (at Q_1) to 17 500 million kilograms a year (at Q_2). These new equilibria will prevail in the market unless the *conditions of supply* again change. Remember that ...

... **shifts in the position of the whole supply curve or line are due to changes in non-price supply conditions:**

Stronger supply conditions cause **an increase the quantity supplied at a given price (e.g. S_1 to S_2 at P_1)**

Weaker supply conditions cause **a decrease the quantity supplied at a given price (e.g. S_1 to S_0 at P_1)**

This same analysis would apply to any good or service in a competitive market where there were similar changes in non-price demand or supply conditions. It makes no difference whether we are dealing with alterations in the conditions for wool, oranges, computers, fish, beer, electricians, minerals, the Australian dollar or even labour. All competitive markets operate the same way.

1.7.3 Reviewing the role of relative prices in markets on the allocation of resources and living standards

You may recall that Australia has a contemporary market economy where the three important economic decisions (the ‘what and how much to produce’, ‘how to produce’ and ‘for whom to produce’ questions) are answered largely through the operation of the price or *market system*. The main principles of this system are again summarised below.

Five ideas about how the operation of the price system helps to make key economic decisions

1. Because we face the problem of *relative scarcity*, economic decisions must be made about how to allocate our resources efficiently to maximise the satisfaction of our wants.
2. As Australia has a *market economy*, key economic decisions are usually made through the operation of the market system, or price mechanism. This involves buyers (demand) and sellers (supply) of particular goods and services interacting to negotiate relative prices.
3. Over a period of time, changes in microeconomic *demand conditions* and/or *supply conditions* alter the quantity demanded and/or supplied for each good or service at any given price, thus bringing about a change in the level of *relative prices* (the price of one good or service compared with the price of another).
4. In turn, changes in the relative price of a particular good or service can affect production costs as well as its level of *relative profits*. Incomes will also be affected.
5. By closely monitoring the *price and profit signals* coming from each market, owners of resources seeking to minimise their costs, and maximise their profits and incomes, will make appropriate economic decisions about how best to *allocate their scarce resources* efficiently among competing uses. For example, higher relative profits will normally attract extra resources to a particular use, market or industry, while lower profits will usually repel resources.

Let us now examine in more detail exactly how the market system can answer the three main economic questions (‘what, how and for whom to produce’) faced by our economy.

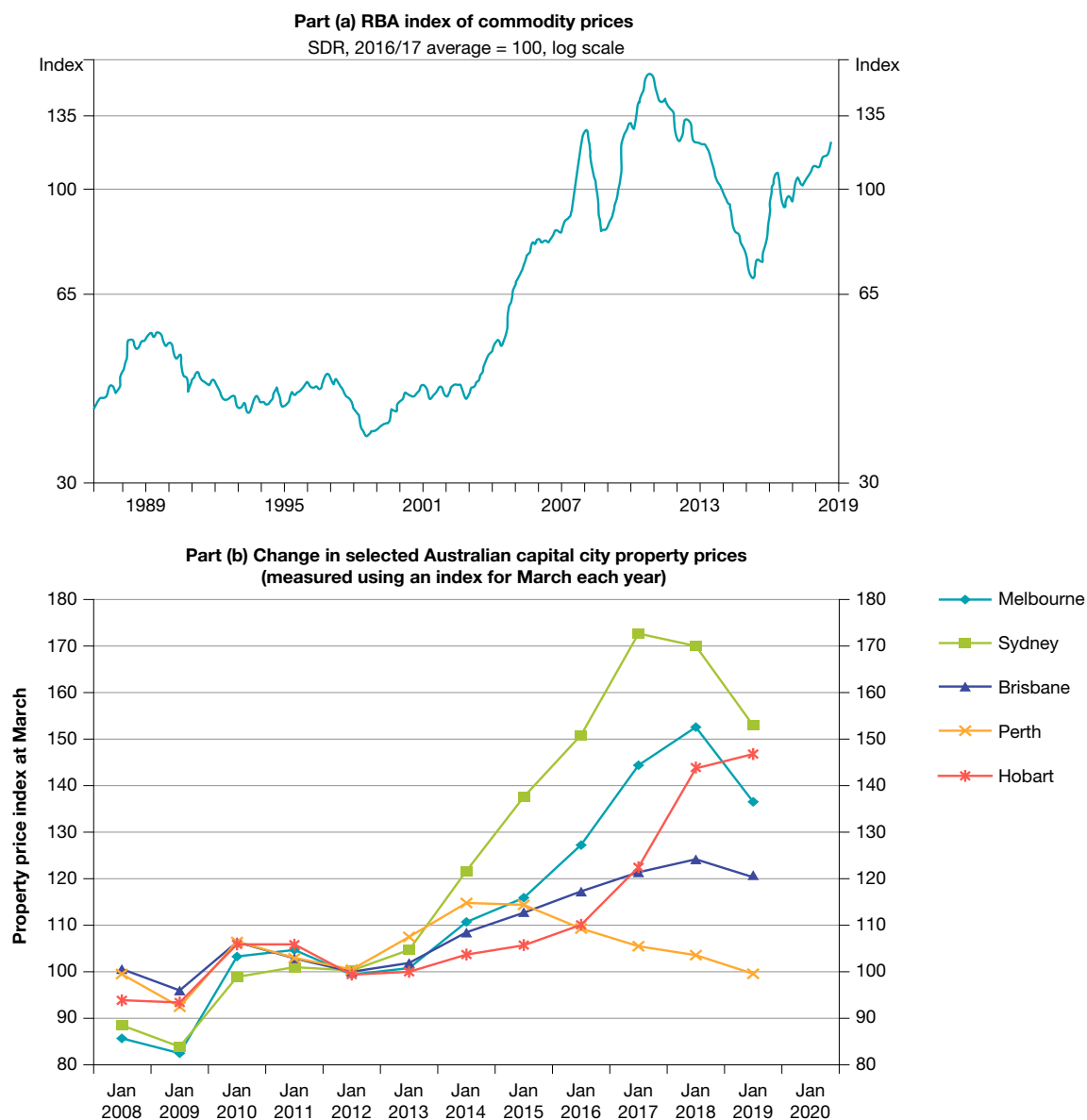
Changes in relative prices alter ‘what and how much’ is produced

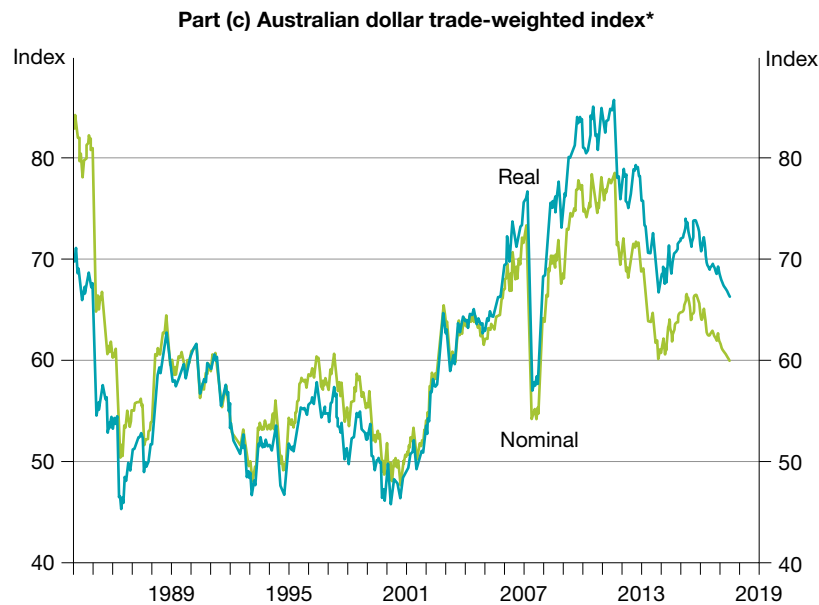
As discussed, markets operate to determine relative prices of goods and services through the interaction of buyers and sellers. So when the *relative price* of one particular type of good or service (such as wool) rises or falls against the price of another (such as wheat), this alters the *relative profits* made from producing each type of product. In turn, this usually dictates how Australia’s resources are allocated among competing uses and answers the ‘what and how much’ to produce question.

For instance, *a rise in the relative price* of a particular good or service in a given market, normally signals to suppliers or owners of resources that there is a general shortage or *underproduction*, and that buyers are keen to purchase the product. In turn, better prices gained from selling one particular type of good or service relative to the price of another, will usually increase relative profits. Higher relative profits should then encourage profit-seeking owners of resources to allocate more of their natural, labour and capital resources towards this particular area of production. Attracting more resources to this relatively more profitable area may even repel resources from other areas. By contrast, *a fall in the relative price* of a particular good or service signals that there has been *overproduction* and that consumers no longer want this item. As a result, relative profits and incomes gained from this type of production will usually fall, thereby repelling resources from this particular area of production. This answers the ‘what and how much to produce’ question.

Figure 1.19 shows three examples of how the forces of demand and supply in various markets have recently affected relative prices and hence profits, thus influencing the type and quantity of particular goods and services that Australia has chosen to produce as well as the way incomes are distributed.

FIGURE 1.19 Some examples of how the operation of buyers and sellers in markets has affected relative prices and decisions about the allocation of Australia’s resources.





*May 1970 = 100 for nominal; real indexed to equate post-float averages;
latest observations for real TWI are estimates

Sources: © Australian Bureau of Statistics; RBA; Thomson Reuters; WM/Reuters.

The graph in part (a) of figure 1.19 shows an index of changes in rural and mineral commodity prices since 1988 (where the price index in 2015–16 equalled 100 points). Changing commodity prices have greatly affected the decisions made by owners of resources. The spectacular rise between 2005 and 2011 corresponds with the commodity boom driven by strong overseas demand relative to supply. Rising relative prices and profits attracted more resources into the area. However, commodity prices subsequently dropped dramatically till late 2015 by almost 50 per cent, due especially to the drop in demand relative to supply. This repelled resources because of relatively lower profits. More recently, commodity prices showed some recovery.

The graph in part (b) of figure 1.19 shows relative changes in capital city housing prices measured in dollars. Note the steep price rises in capital cities such as Melbourne and Sydney between 2013 and early 2017. This was due to rising demand fuelled by low interest rates and population growth (including immigration), relative to supply. This price rise attracted many more resources into property due to the potential for making relatively higher profits.

The graph in part (c) of figure 1.19 shows changes in the price or exchange rate for the Australian dollar when it is swapped into other currencies — US dollars, yen or euros. These have also affected the decisions made by owners of resources. For instance, the relatively high Australian dollar during 2009 and 2012 caused locally manufactured goods and services to be too expensive for consumers relative to those made abroad. Locally, this meant reduced sales, lower profits and business closures. Consequently, resources were redirected elsewhere. By comparison, there was an overall fall in the value of the Australian dollar between 2012 and early 2019. This made local goods and services relatively more attractive and profitable, resulting in more resources being allocated in this direction.

Changes in relative prices alter ‘how’ goods and services are produced

Markets also operate to determine the price or cost of most resources. They thus provide useful information needed by businesses to make decisions about their production methods. For instance, changes in the cost or market price of one resource relative to the price of another (such as the cost of labour relative to the

price of machinery or capital resources), may alter how firms produce a particular good or service — that is, the price or market system answers the ‘how to produce’ question. This is because most firms make their production decisions to try to maximise their profits and efficiency by minimising production costs (the prices of resources). So if the market price of labour resources (wages) rises relative to the price of capital resources such as technology or machinery (perhaps the interest rate or cost of credit), then producers would be likely to select the cheaper alternative of using capital equipment, so long as the capital can be substituted for labour in the production process.

Changes in relative prices alter ‘for whom’ goods and services (the distribution of income)

When the price of a particular good or service changes against that of another, the distribution of income between individuals in the economy is affected — that is, the price system answers the ‘for whom to produce’ question. For instance, individuals selling labour and other resources that are relatively scarce and especially wanted, or firms selling finished products that are in strong demand by consumers, will enjoy relatively higher incomes and better profits. In this case, extra labour and other inputs will be attracted into the area, so the price system is again allocating labour and other resources efficiently to areas of greatest need.

on Resources

 **Digital document** Figure 1.21 Demand–supply diagrams (doc-19220)

1.7 ACTIVITIES

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

Check your understanding

1. What are non-price *demand factors* or conditions and how might they affect the market equilibrium price and quantity traded?
2. What are non-price *supply factors* or conditions and how might they affect the market equilibrium price and quantity traded?
3. Distinguish between each of the following:
 - (a) A *movement along* a demand line and a *shift* of the demand line.
 - (b) A *movement along* the supply line and a *shift* of the supply line.
4. What is meant by *relative prices* and *relative profits*, and how do these affect how resources are used or allocated?
5. All economic systems seek to answer *three* basic economic questions involving ‘what and how much to produce’, ‘how to produce’ and ‘for whom to produce’. Explain how the market or *price system* answers *each* of these three questions.

Applied economic exercises

1. (a) Explain what is meant by the term *relative prices*. (1 mark)
 (b) Examine table 1.4 showing hypothetical changes in the relative prices for bananas and pineapples between 2020 and 2023.

TABLE 1.4 Changes in relative prices for bananas and pineapples

Type of product	2020	2021	2022	2023
Bananas (\$ per kilo)	3	4	4	4
Pineapples (\$ per pineapple)	4	7	10	3

Referring to table 1.4, describe what has happened to the relative price of bananas and pineapples during each of the following periods:

i. 2020–22

ii. 2022–23.

(2 marks)

(c) Suggest two likely non-price factors or conditions that explain the change in the price of pineapples during each of the following periods:

i. 2020–22

ii. 2022–23.

(2 marks)

(d) Which of these two products is likely to be relatively most profitable for growers, assuming no change in production costs over the period, 2020–22? How might this affect the allocation of resources at this time?

(2 marks)

2. Examine table 1.5 showing the schedule relating to the demand and supply for coffee beans in a competitive market. In this market, supply has changed from S_1 to S_2 .

TABLE 1.5 Schedule showing the demand and supply of coffee beans in a competitive market

Price of coffee beans per kilo	Original quantity of coffee beans demanded in kilos (D_1)	Original quantity of coffee beans supplied in kilos (S_1)	New quantity of coffee beans supplied in kilos (S_2)
\$4.00	1600	200	400
\$6.00	1400	400	600
\$8.00	1200	600	800
\$10.00	1000	800	1000
\$12.00	800	1000	1200
\$14.00	600	1200	1400
\$16.00	400	1400	1600

(a) Use this table of data to accurately construct and fully label a demand–supply diagram representing the market for coffee beans, labelling all lines and points including D_1 , S_1 , S_2 , E_1 , E_2 , P_1 , P_2 , Q_1 and Q_2 .

(3 marks)

(b) Describe the change that has occurred in the *supply* of coffee beans, identifying *two* important and likely non-price microeconomic factors that might cause this change in the market conditions for coffee beans.

(2 marks)

(c) Carefully explain the *process* or steps whereby there is a change in equilibrium from E_1 to E_2 in this market for coffee beans, referring to data from your graph and the table.

(3 marks)

(d) Quoting statistics, describe what has happened to the equilibrium market *price and quantity* of coffee beans traded in this market.

(2 marks)

(e) Other things remaining constant, how might you expect this change in the equilibrium price to impact on the *allocation of scarce resources* towards the production of coffee beans?

(3 marks)

(f) Coffee and tea are partial substitute drinks. Explain how would you expect a *fall* in the price of *tea* to affect the market for coffee beans?

(1 mark)

(g) If the *prices* of coffee sweetener and Teddy Bear biscuits used as *complements* with drinking coffee fell, how would this likely affect the market for coffee beans?

(1 mark)

3. Examine the demand–supply diagram in figure 1.20, representing a *competitive market* for soft drinks before answering the questions that follow.

(a) What is meant by the *law of demand*?

(1 mark)

(b) Describe the change in the demand for soft drinks from D_1 to D_2 . Identify and explain *two* likely factors or conditions which theoretically may account for the change in the demand for soft drinks from D_1 to D_2 as shown on the diagram.

(3 marks)

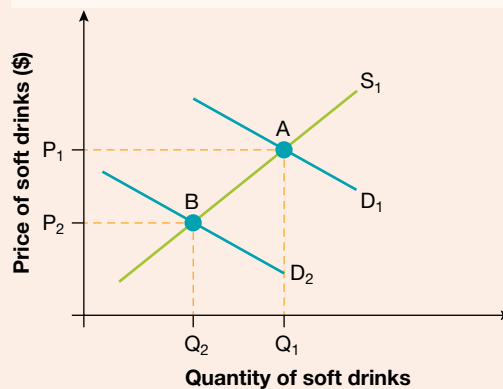
(c) Referring to figure 1.20, clearly describe the *process* whereby the *equilibrium* in the soft drink market adjusts from equilibrium A to equilibrium B.

(3 marks)

(d) On a fully labelled demand–supply diagram, show the hypothetical impact on the soft drink market of a rise in the price of bottled water as a *substitute* product. Show the *before* and the *after* situations in the soft drink market.

(2 marks)

FIGURE 1.20 The market for soft drinks



(e) Explain the likely impact on the soft drink market of a *rise* in the price of plastic bottles and the wages paid to soft drink workers. **(2 marks)**

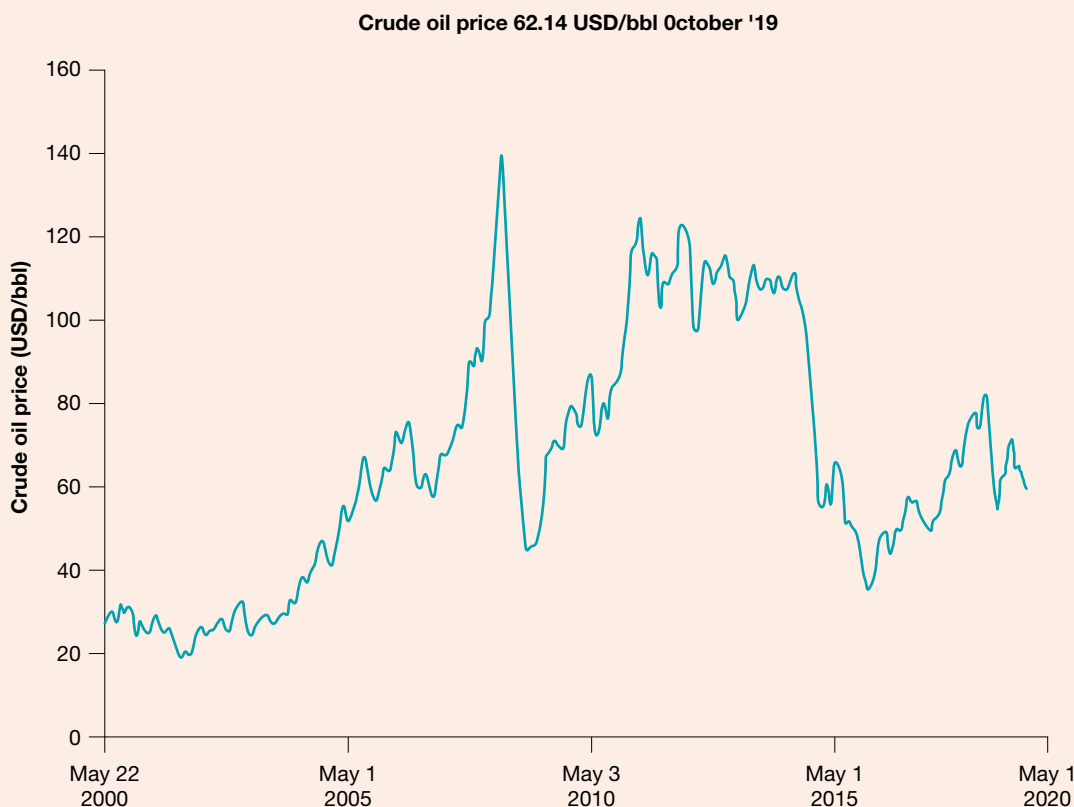
4. Download a copy of figure 1.21 Demand–supply diagrams from the Resources tab. Complete and fully label each of the following D–S diagrams representing an individual competitive market in figure 1.21 to show the hypothetical effects of an event that alters either the conditions of demand and/or supply, and hence the market equilibrium price and quantity. In most cases, you will need to add a second D line (D_2) and/or a second S line (S_2), along with a new equilibrium price (P_2) and quantity (Q_2). **(9 marks)**

FIGURE 1.21 Showing the impact of changed conditions on demand–supply diagrams for various markets

The banana crop in Queensland is destroyed by a cyclone	The effect of a heatwave on the market for air conditioners	The effect of a successful advertising campaign, 'Put some pork on your fork'.
A slowdown in China's economy and the market for iron ore	A rise in petrol prices on the market for large 4WDs	A rise in consumer confidence and disposable income for air travel
The government increases the excise tax on the sale of cigarettes	The aviation market one week before the AFL grand final when a non-Victorian AFL team made the final game	An increase in the government subsidy paid to childcare providers

5. Examine figure 1.22 showing changes in the market price (in US\$) of crude oil (used to make petrol, synthetic fabrics and plastics) between 2003 and October 2019 and use it to answer the questions that follow.

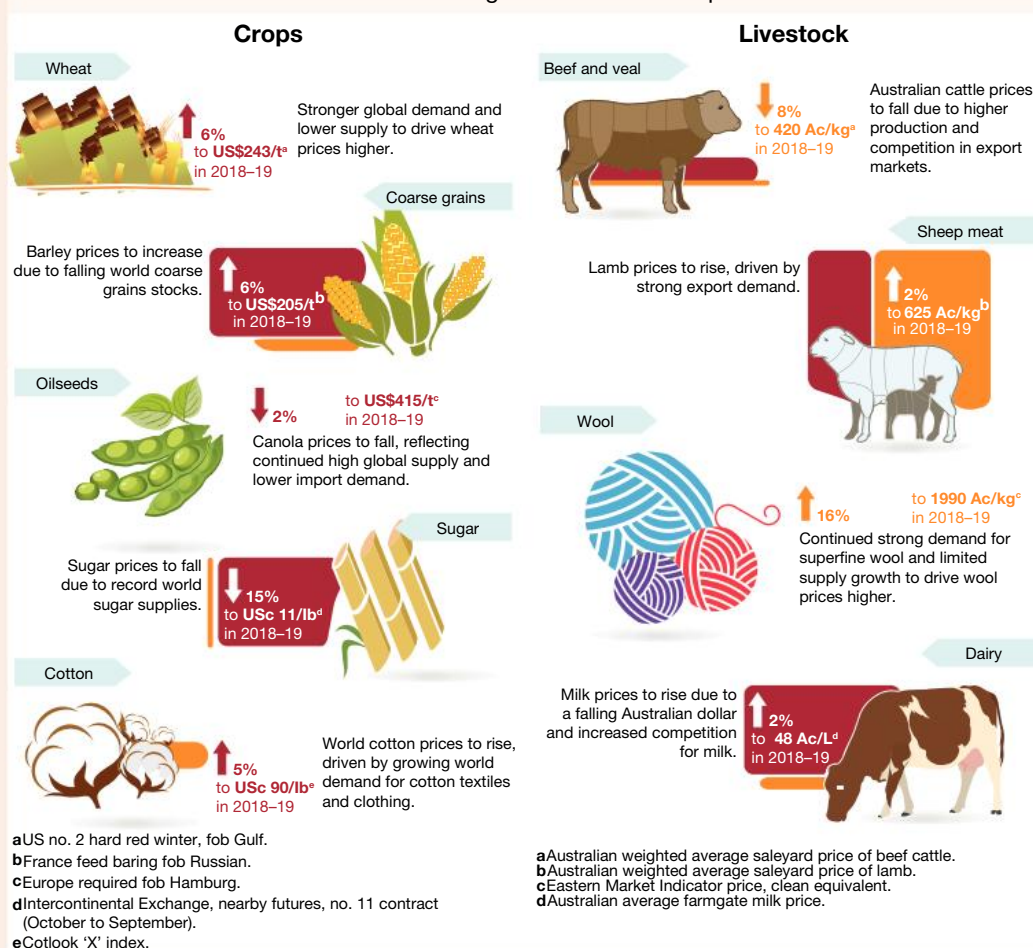
FIGURE 1.22 Changes in the market price of crude oil (US\$ per barrel)



Source: InfoMine.

- Assume that there was a free and competitive international market for oil. With reference to demand and supply factors (market theory), suggest *two* important reasons that could explain why the price of oil has been lower in the period between 2014 and 2019. **(4 marks)**
 - Assuming that the *production costs* (prices of resources used) paid by oil producers had been fairly *steady* between 2014 and 2019, explain the likely *effects* on the *allocation of resources*, given that oil prices have been relatively *low* in recent times. Giving reasons, explain which particular industries or types of production would be likely to attract *extra* resources and which areas would probably *repel* resources as a result of this recent price signal from the oil market. **(4 marks)**
 - Outline *two* likely reasons why the federal government currently imposes a heavy excise tax on sellers of petrol (made from oil). **(2 marks)**
 - Explain how the government's heavy excise tax placed on sellers of petrol might affect the allocation of Australia's resources between various uses. Use a fully labelled demand–supply diagram to show the oil market, *both* before and *after* the imposition of an excise tax on sellers. **(4 marks)**
6. Examine figure 1.23, which compares recent changes in the relative prices received for selected crops and livestock, and answer the questions that follow.

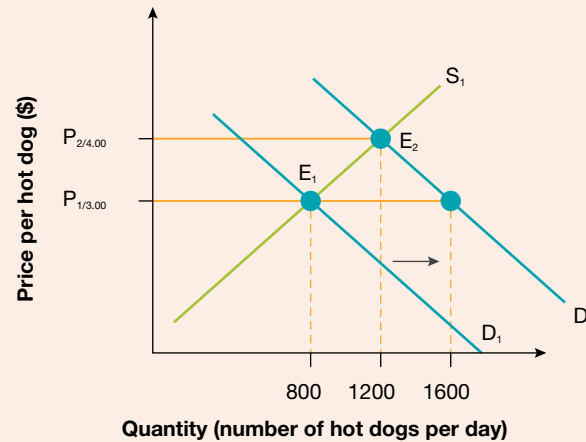
FIGURE 1.23 Some recent events affecting the markets for crops and livestock



Source: Sourced from the Commonwealth of Australia Department of Agriculture and Water Resources.

- What is meant by *relative prices*? Describe the recent changes in the relative market prices for crops as opposed to grains. (2 marks)
 - Suggest *two* likely microeconomic *demand factors* that, hypothetically, may have caused the changes in *relative prices* in these rural commodity markets. (2 marks)
 - Suggest *two* microeconomic *supply factors* that might have caused the changes in relative prices in these markets. (2 marks)
 - In the Australian economy, when owners of resources are making decisions about resource allocation, they are largely motivated to maximise their profits. Explain how changes in *relative prices* for wheat and livestock are likely to affect the *relative profitability* of these two areas of farming. (2 marks)
 - How would you allocate resources between wheat and livestock in this situation, assuming your resources were completely mobile? Justify your answer. (2 marks)
7. Examine figure 1.24, which represents a hypothetical demand and supply graph for hot dogs purchased from competing shops along St Kilda Beach in Melbourne.
- Describe the change in the demand for hot dogs from D_1 to D_2 . Identify and outline *one* microeconomic *demand-side factor* that might have caused this change in demand. (2 marks)
 - Explain how the *equilibrium market price* and *equilibrium market quantity* of hot dogs adjusts from E_1 to E_2 . (3 marks)
 - With reference to this market for hot dogs, briefly explain the role of the price mechanism (market mechanism) in changing the pattern of resource allocation. (2 marks)

FIGURE 1.24 The demand and supply of hot dogs



8. Explain how the operation of Australia's market system normally allocates scarce resources *efficiently* between competing uses. Illustrate your explanation with reference to recent price changes that have occurred in various Australian or global markets. **(6 marks)**

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1.8 The meaning and significance of price elasticity of demand and supply

KEY CONCEPTS

- the meaning and significance of price elasticity of demand and supply
- factors affecting price elasticity of demand: degree of necessity, availability of substitutes, proportion of income and time
- factors affecting price elasticity of supply: spare capacity, production period and durability of goods

We already know that the *quantity* of a good or service demanded or supplied either *expands* or *contracts* when there is a change in its price (i.e. this is illustrated by a *shift* up or downwards along the line or curve). Indeed, this is the basis of the laws of demand and supply. Price **elasticity** further refines this concept by measuring the *degree of responsiveness* of the quantity demanded or supplied to a given change in price.

1.8.1 Factors affecting the price elasticity of demand

According to the law of demand, the quantity demanded varies inversely with a change in its price — when the price goes up, demand contracts; when the price goes down, demand expands. However, the **price elasticity of demand** measures the responsiveness of the quantity demanded relative to the percentage change in price. For instance, given a rise in price, elasticity measures whether, in percentage terms, the demand contracts by a lot or just a little.

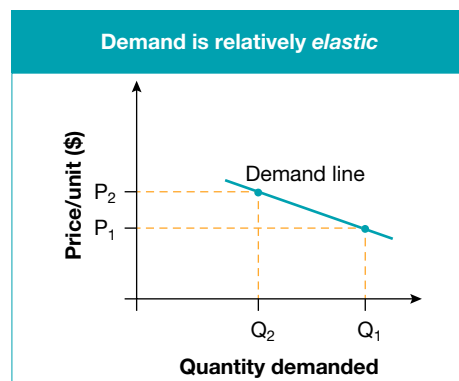
Price elasticity of demand or PED can be calculated as follows:

$$\text{PED} = \frac{\text{Percentage change in the quantity demanded}}{\text{Percentage change in its price}}$$

There are three types of price elasticity for demand:

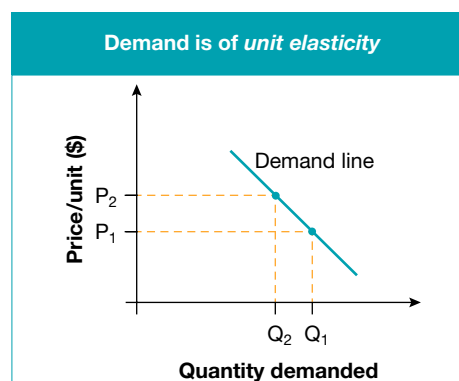
Demand is relatively elastic (high PED)

The PED is high (a number that is greater than 1) if the quantity of a particular good or service demanded changes by a *larger proportion* than the change in price; for example, a 10 per cent rise in price results in a 20 per cent contraction in the quantity of a good or service demanded. In this case, buyers are easily able to defer or switch their demand elsewhere in response to higher prices. An elastic demand means that if prices rise, the total revenue or value of consumer purchases (which equals the unit price multiplied by the quantity demanded or purchased) decreases. When drawn, the elastic demand line is fairly flat.



Demand is of unit elasticity (medium PED)

The PED is medium (a number that is equal to 1) if the quantity demanded changes by the *same proportion* as the change in price. Here, a 10 per cent rise in price results in a 10 per cent contraction in the quantity demanded. Consequently, total revenue remains unchanged with a rise in price.



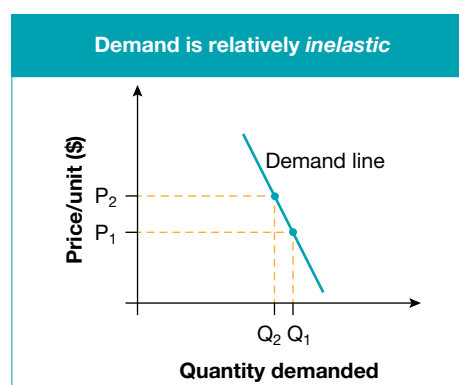
Demand is relatively inelastic (low PED)

The PED is low (a number that is less than 1) if the quantity demanded changes by a *smaller proportion* than the change in price. Here, a 10 per cent rise in price results in only a 5 per cent contraction in quantity demanded. In this situation, buyers are unable or unwilling to significantly contract demand. Consequently, total revenue increases with a rise in price. When drawn, the inelastic demand line is fairly steep.

Note, however, that in order to use the slope of the demand line to indicate the degree of elasticity, the same scale has been used on all axes.

The price elasticity of demand (PED) is affected by a number of factors:

- **Type of item.** The demand for necessities, such as basic foods, rental accommodation and medical attention, is normally relatively inelastic, while that for non-necessities like luxury cars, holidays and entertainment is usually relatively elastic.
- **Product substitutability.** The demand for substitutes (e.g. wool and synthetics, butter and margarine, Australian wheat versus overseas wheat, different breakfast cereal) is usually fairly elastic, while that for unique products (such as petrol for most car owners, eggs) is quite inelastic.



- *The time period.* Time has an effect on elasticity. In the long term, the demand for most things tends to be more elastic than in the short term, when demand is more inelastic. Time gives buyers the opportunity to find alternatives or substitutes, or change their habits.
- *Cost and relative importance.* Expensive things representing a high proportion of household spending tend to have a more elastic demand, while cheaper items representing a lower percentage of our spending have a more inelastic demand.
- *Minor complementary items.* The demand for cheap, complementary items (e.g. the purchase of water) to be used together with a dearer product (such as an in-ground swimming pool) will tend to have an inelastic demand.

1.8.2 Factors affecting the price elasticity of supply

Price elasticity of supply helps us understand the behaviour of sellers in a market. According to the law of supply, the *quantity* supplied of a particular good or service varies directly with a change in its price. It measures the *responsiveness* of the quantity supplied to the percentage change in price (i.e. whether the quantity supplied expands or contracts by a large or a small percentage). This elasticity is reflected in the steepness of the supply line.

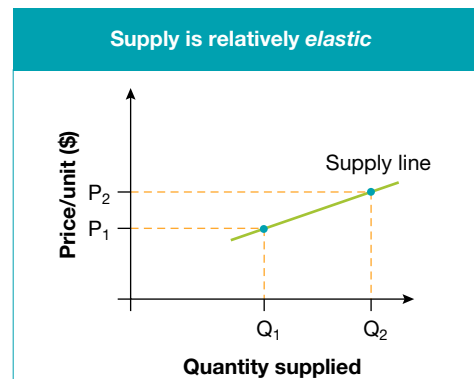
Price elasticity of supply or PES can be calculated as follows:

$$\text{PES} = \frac{\text{Percentage change in the quantity supplied}}{\text{Percentage change in its price}}$$

There are three degrees of price elasticity of supply:

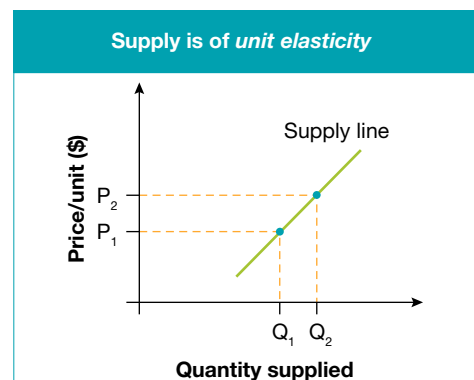
Supply is relatively elastic (high PES)

The PES is elastic (a number that is greater than 1) if the quantity of a particular good or service offered for sale changes by a *larger proportion* than the change in price; for example, a 10 per cent rise in price results in a 20 per cent expansion in the quantity supplied. In this case, firms can easily expand output in response to the rise in price. When drawn, the elastic supply line is fairly flat.



Supply is of unit elasticity (medium PES)

The PES is of medium elasticity (a number that is equal to 1) if the quantity supplied changes by the *same proportion* as the change in price. Here, a 10 per cent rise in price causes a 10 per cent expansion in the quantity supplied.

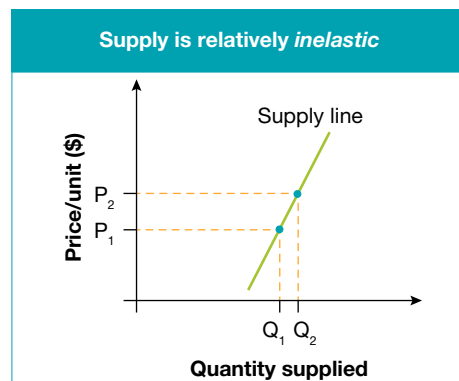


Supply is relatively inelastic (low PES)

The PES is low (a number that is less than 1) if the quantity supplied changes by a *smaller proportion* than the change in price; for example, a 10 per cent rise in price produces only a 5 per cent expansion in the quantity supplied. Here, firms are relatively unwilling or unable to respond to the rise in price. When drawn, the inelastic supply line is fairly steep.

The price elasticity of supply (PES) is affected by a number of factors:

- *Product storability and durability.* Items that are durable and can be stored successfully without deterioration, such as minerals, wheat, wool and red wine, generally face a more elastic supply line. In such cases, a rise in price means that sellers can quickly and simply access the extra supplies of goods or services by reducing their stocks of unsold goods. Services tend to face a more inelastic supply because they cannot generally be stored.
- *Resource mobility and unused industry capacity.* The quantity of a particular item supplied is likely to be more elastic if production levels can be readily and inexpensively changed by moving resources between industries. Supply is especially elastic when there is unused or spare productive capacity in an industry or firm. Here, the quantity supplied can be increased quickly following a rise in the price.
- *The time period.* In the short term, it is often difficult for firms to expand supply following a price rise for their product, especially if resources are immobile and can't be moved easily between uses, and if excess capacity in production by firms does not exist. In this case, supply is relatively more inelastic in the short term. However, in the long term, supply becomes more elastic. Over a greater number of years, the availability of most resources can be increased, making supply more responsive to price changes.



1.8.3 The significance of price elasticity of demand and supply

Price elasticity has two important and practical implications for sellers and government.

1. *The pricing policies of sellers.* When pricing their products, businesses consider the price elasticity of demand for their goods or services. For example, retailers such as Myers, Target or Harris Scarfe frequently have sales offering 10 or 20 per cent discounts on their normal prices. Normally this would be expected to cut their total revenue, but this will not happen if the demand for their goods is elastic (with a high PED). Other firms are in the fortunate position of being able to increase prices when their products are essential and have no close substitute. Because demand for their goods is inelastic (with a low PED), they will actually increase their revenue and profits.
2. *The raising of government revenue.* Governments always seem to be short of revenue. If raising revenue was their main goal, governments would select products with a low or inelastic PED (tobacco, alcohol, petrol, healthcare) and put a heavy excise tax on the items, which would raise their prices. Addicted, ill-informed or trapped consumers with no other choice would mostly pay the higher taxes. Being unresponsive, demand would not contract greatly and the government could raise a lot of revenue. However, if the main aim of the government's excise taxes on alcohol, tobacco or fuel was to substantially contract demand and change buyer habits that are damaging society or individuals, the policy of heavily taxing such products would have limited success because their PED is low.



- Weblinks**
- Demand and supply explained (1 of 2)
 - Demand and supply explained (2 of 2)
 - Shifting demand and supply
 - Demand, supply, equilibrium, curve shifts (EconMovies 4: Indiana Jones)
 - Supply and demand
 - Price elasticity of supply
 - Price elasticity of demand
 - The effects of a tax on D–S, taxes on producers
 - Marginal analysis (EconMovies 2: Monty Python and the Holy Grail)
 - Changes in supply, demand and market equilibrium
 - Interactive demand and supply diagram

1.8 ACTIVITIES

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Check your understanding

1. Define price elasticity of demand. List three influences on the price elasticity of demand.
2. Define price elasticity of supply. List three influences on the price elasticity of supply.
3. Using an example, explain the economic importance of the concept of elasticity.

Applied economic exercises

1. (a) Define what is meant by the term *price elasticity*. **(1 mark)**
 (b) The demand for tobacco is price *inelastic*. What does this mean, explaining *two* reasons for this? **(3 marks)**
 (c) Given the price inelasticity of demand for tobacco, identify and explain *one* important *advantage* and *one* important *disadvantage* of a government policy that *increases* the *tax* on tobacco *sellers*, by 12 per cent, in an effort to reduce smoking and its harmful effects. **(2 marks)**
 (d) In the longer term, the price elasticity of supply for most goods tends to be *more elastic* than in the short term. What does this mean, suggesting *one* important reason for this observation? **(2 marks)**
 (e) Examine table 1.6. Classify the various types of goods or services shown in the table, as to whether their demand and supply is likely to be price *elastic* or price *inelastic*, giving brief reasons for your answer. **(4 marks)**

TABLE 1.6 Classifying price elasticities for different products

Good	The likely price elasticity of demand is ...	The likely price elasticity of supply is ...
Petrol		
Bananas		
Pepper		
Gold		

- (f) Use the hypothetical data contained in table 1.7 below to:
 - i. calculate the PED
 - ii. determine if the good has an elastic or inelastic demand.**(4 marks)**

TABLE 1.7 Calculating the price elasticity of demand

Product	Percentage change in price	Percentage change in quantity demanded	Calculation-the PED =	Is the demand for this product is price elastic or price inelastic? Why?
A bottle water sold in the desert	40	10		
A 500g tub of margarine	20	30		

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1.9 Reasons for market failure and government intervention to address market failure in Australia's economy

KEY CONCEPTS

- reasons for market failure: public goods, externalities, asymmetric information and common access resources
- the role and effect of indirect taxation, subsidies, government regulations and government advertising as forms of government intervention in the market to address market failure

We have already seen that efficiency in resource allocation occurs when inputs are used to produce particular types of goods and services that help to maximise the general satisfaction of society's needs and wants, and overall wellbeing. In general, the free operation of competitive markets is usually a very efficient way of allocating resources between alternative uses into areas where they are most wanted. This is especially the case when the *preconditions* for competitive markets are largely met; for example:

- strong competition exists between buyers and sellers in the market
- firms are price takers (not price makers) and no firm has significant market power
- product differentiation and brand names do not exist (the product is homogeneous)
- there is a large level of consumer sovereignty that guides how resources are allocated
- buyers and sellers have complete information about the product and market (perfect knowledge)
- there is ease of entry and exit by producers in the market
- sellers and owners of resources aim to maximise their profits and incomes.

In certain circumstances, however, the market fails to use resources efficiently, thereby *lowering* society's general wellbeing. This results in **market failure**.

When market failure occurs, governments often *intervene* with a range of *policies* designed to reduce market failure and improve how resources are used. These strategies might include:

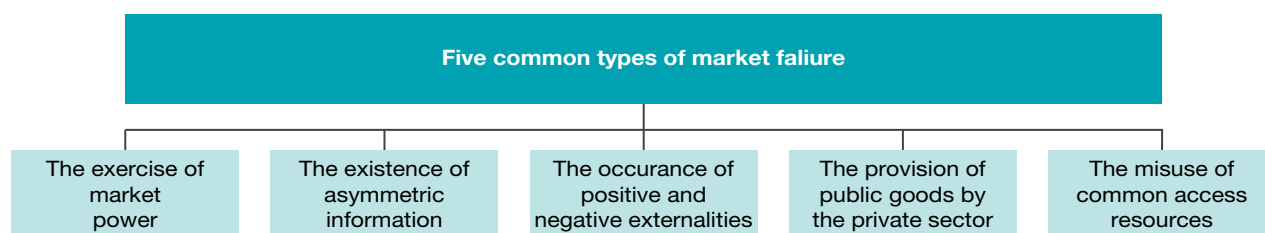
- using budgetary policy measures (various taxes, outlays on public goods and services, and government cash subsidies to consumers or businesses)
- enacting special legislation to change the law or alter society's behaviour
- engaging in educational or informative advertising to improve knowledge and consumer and business awareness
- setting minimum or maximum prices in selected markets
- using microeconomic and other efficiency reforms.

In these ways, the Australian government directly or indirectly allocates perhaps more than 20 per cent of all resources. It is worth remembering that government intervention is not always a roaring success. Sadly, as we shall later see, **government failure** sometimes occurs. Whether this interference in resource allocation is justified depends on whether it results in a net gain in society's general wellbeing.

The overwhelming reason for having at least some government regulation or influence over resource allocation, *is to correct market failure* and improve society's general living standards. *Market failure exists when the operation of the price system fails to maximise society's general wellbeing.*

As illustrated below, there are at least five major instances of market failure that can justify having some government interference or regulation:

FIGURE 1.25 In Australia, we have a largely market economy where buyers and sellers of goods and services negotiate relative prices. While the operation of the market mostly makes good economic decisions that improve society's general wellbeing, sometimes it fails. As a result, it damages our general wellbeing and living standards may suffer. Correction of this may require government regulation or intervention.



1.9.1 Markets can fail due to the abuse of market power

We have already noted that strong competition helps to guarantee good outcomes such as efficiency, quality and relatively low prices. However, economists note that when market power is exercised by oligopolies and monopolies in an industry, it is likely that sellers will sometimes restrict competition and output, lift

prices (since such firms are *price makers* rather than *price takers*), reduce efficiency in resource allocation and lower customer service, causing market failure by reducing society's level of satisfaction and general wellbeing. In this situation, the government could improve market outcomes through various measures designed to enhance competition.

Government deregulation of key markets

Over the past three decades there has been partial deregulation (removal of unnecessary government restrictions to competition) of some important markets including those for labour, capital, waterfront shipping, primary produce, telecommunications, electricity, water, milk and aviation. The hope is that the level of competition between sellers will be greater, creating increased efficiency, lower prices and improved living standards. For instance, in the labour market, the old system of centrally determined minimum wages set by the Fair Work Commission has gradually become less important. Instead, there has been partial deregulation with an extension of a decentralised wage system involving greater flexibility and firm-by-firm-enterprise bargaining or pay agreements linked to productivity. Furthermore, in 2015 the Productivity Commission made its recommendations to further deregulate some aspects of the labour market. Whether the government adopts all of these and other recommendations and leaves the market freer to determine wages and conditions, will depend on political considerations and the need to balance the aims of efficiency with equity.

Deregulation reforms like these expose industries and workers to greater competition by removing government restrictions and by breaking up both public and private monopolies and oligopolies.

Reducing the level of tariff protection from imports for local firms and liberalising trade

Tariffs are an indirect tax added to the price of imports. They are designed to make foreign goods dearer and less attractive, thereby reducing competition for local firms. For many years the federal government has been cutting tariff rates and progressively moving towards freer trade. Indeed, from an average tariff protection level of 38 per cent in 1968–69, the general rate of tariffs on most manufactured items fell by 2.5 per cent a year since the late 1980s, to effectively reach less than 5 per cent since 1995 for most items. As a result, to lift efficiency in resource allocation and survive, local firms have had to improve product quality, restructure operations and cut their production costs. It means that our resources are increasingly allocated into areas where Australian industry has a comparative cost advantage. As a result, living standards should rise.

Government laws to promote price competition, and regulate monopolies and oligopolies

Generally, competition promotes greater efficiency in resource allocation and higher living standards. With this in mind, the Australian *Competition and Consumer Act 2010* (formerly called the *Trade Practices Act*) requires that Australian firms compete with each other. Activities like price maintenance, price leadership, market zoning, interlocking directorships and exclusive dealing are illegal. Heavy fines of up to \$10 million per occasion are imposed on companies that break the law, and directors who break the law may face jail sentences. Company takeovers and mergers not considered to be in the interests of consumers are exposed and closely scrutinised. Furthermore, the Australian Competition and Consumer Commission (ACCC) undertakes ongoing price surveillance of industries where competition is weak, such as petroleum, banking, insurance and power. Firms in both public and private sectors are required to justify increases in the prices they charge.

1.9.2 Markets can fail due to asymmetric information

Asymmetric information is a second situation where there is market failure. For markets to allocate resources efficiently, buyers and sellers need to have complete and reliable knowledge of all the relevant information affecting their economic decisions. Unfortunately, this is not always the reality because

one group in the market may have more knowledge than others. Often, for example, sellers have more information than buyers in a transaction, so rational choices and efficient decisions about resource allocation cannot be made. Here, the market fails to work well and society's overall wellbeing is reduced. This imbalance in knowledge is called asymmetric information.

There are many instances of this type of market failure; for example, *insider trading* in the share market (when shares are either bought or sold based on information that is not revealed to the rest of the market, such as the discovery of a new goldmine), rogue elements in the used-car market (when sellers hide or cover up mechanical problems with the cars they sell), online shopping and dating (where buyers cannot physically inspect the goods before making their decision), the building trades (where costs have been cut by inferior workmanship), an employer hiring a new employee, and harmful ingredients used in producing food, tobacco and, in the past, asbestos-based cement sheeting. Again, the logical solution to this failure is for governments to intervene using various strategies.

Government laws to improve market knowledge

One approach is that the government could pass laws requiring full *product disclosure* by sellers of all relevant information needed for effective decision making by potential buyers through appropriate legislation, such as useful *labelling* on products such as food. These laws could make it illegal for sellers to withhold certain information; for example, laws about the responsibilities of company directors to accurately inform and update investors of business conditions and prospects that affect decision making, or product labelling requirements that warn users of potential hazards or dangers.

Improved access to information or knowledge

The government could conduct an *advertising campaign* to educate and inform consumers of potential dangers of products so that more effective choices can be made and resources allocated efficiently to maximise society's wellbeing. An example of such a campaign is the QUIT campaign, which aims to make people stop smoking. In addition, improving the speed and level of public access to the internet (by, for example, the rollout of the National Broadband Network or NBN) can help facilitate effective research by buyers and sellers, and improve their knowledge and understanding of the consequences of their economic decisions.

1.9.3 Markets can fail due to externalities

Externalities are a third source of market failure. They represent extra *costs* or *benefits* for third parties (someone not directly involved in the particular transaction) that may arise when goods and services are produced or consumed. There are *two* types of externalities: negative and positive.

- *Negative externalities.* Negative externalities are *costs* paid by third parties. They can occur, for example, when a factory producing chemicals releases unpleasant odours that we are forced to breathe, even though we do not use that firm's products. Another example occurs in the generation of power with the release into the atmosphere of carbon dioxide emissions that lead to global warming, severe weather events and climate change that may then contribute to the flooding of island communities and wild weather events that damage the properties of others and cause the loss of lives and production. These costs are not paid by the producers who have created the damage. The costs of the damage for them will be zero, thereby inflating their profits. This problem distorts the efficient allocation of resources. *Socially undesirable* goods and services will be over-produced. Negative externalities lead to a misallocation of resources that represent market failure because they lower society's general wellbeing and living standards. Governments often seek to reduce negative externalities and improve living standards using various measures including legislation, indirect taxes, cash subsidies and advertising.
- *Positive externalities.* Sometimes, there are positive externalities or *benefits* received by third parties that arise from the production and consumption of particular goods or services. For instance, painting

your house or beautifying your garden brings benefits to neighbours (e.g. higher land values) and passers-by, even though they failed to pay for the improvements you made. Positive externalities result in the *underproduction of socially beneficial goods or services* since decision makers do not factor in the value of all the benefits or satisfaction gained from a given economic activity. Again market failure has occurred because resources are not allocated efficiently and our general wellbeing will be lower than it could be.

The government can help reduce externalities through various types of intervention.

Government laws to reduce negative externalities

One way the government can reduce negative externalities is by passing laws or legislation to force firms and/or consumers to change their activities or behaviours causing negative externalities. For example, passing laws such as the *Clean Energy Act* in 2011 (that led to the carbon tax between 2012 and 2014) put a cost on carbon pollution, and compelled producers and consumers to take more responsibility for their emissions and change their production and consumption patterns. Similarly, anti-smoking laws have also reduced negative externalities and adverse health issues for society that are associated with active and passive smoking (breathing in second-hand smoke-filled air).

Using an indirect excise tax

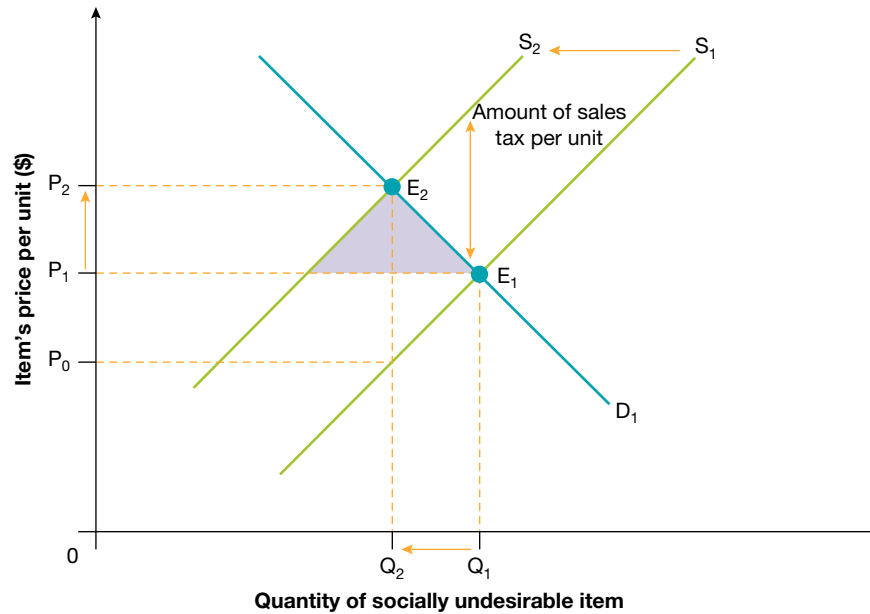
Each year, the consumption of socially undesirable goods such as alcohol and tobacco causes much harm to society and individuals, and adds greatly to the health and safety costs paid by governments and taxpayers. Additionally, manufacture of some products generates carbon emissions and adds to global warming. These are linked to severe weather events, rising sea levels, destruction of infrastructure and property, and deaths. In these two situations, negative externalities or costs are passed on to third parties. In an attempt to reduce such negative externalities, the federal government has placed taxes on tobacco and alcohol. These taxes raise the price of the particular goods, possibly changing decisions made by buyers and sellers, thereby reallocating resources more efficiently to areas where they add most to our general wellbeing.

More specifically, let us use the demand–supply diagram shown in figure 1.26 to illustrate what happens if the government imposes a *tax* on *producers* or suppliers of an undesirable good or service whose consumption results in negative externalities. Here, for example, we might think of the effects of a carbon tax on production that causes CO₂ pollution such as electricity made from brown coal, a tax on alcoholic drinks or a tax on the sale of cigarettes. As can be seen from figure 1.26, supply-side conditions for firms producing these goods will become less favourable. By having their profits cut, producers will be discouraged from producing or supplying the item, causing a *decrease in supply* at all possible prices.

Referring to figure 1.26, this decrease in supply following the introduction of an excise tax means that the supply line shifts upwards vertically from S_1 to S_2 by an amount equal to the level of tax per unit. This causes the equilibrium price to increase from P_1 to P_2 . Following the imposition of the tax, buyers will now pay the new higher, less attractive equilibrium price, P_2 , causing demand to contract. At the same time the equilibrium quantity will fall from Q_1 to Q_2 . However, following the tax, suppliers of this socially undesirable good or service will receive a much lower, less profitable price equal to P_0 , cutting the quantity they produce to Q_2 . In this case, the difference between the buyer's and seller's prices (P_2 versus P_0) represents the amount of sales tax per unit sold, which goes to the government. Here both buyers and sellers of this item each share part of the tax burden. This policy changes behaviour and discourages both production and consumption of the item, repelling resources from this socially undesirable area. Market failure is reduced.

However, in practice, because the demand for these fairly addictive type goods is *inelastic* (unresponsive), the tax has not been especially effective in changing resource allocation by making these items less attractive to consume (even though it has raised much government revenue).

FIGURE 1.26 The impact on the market of a sales tax imposed on producers or sellers of a socially undesirable good or service (e.g. tobacco, pollution or alcohol) to discourage production and consumption.

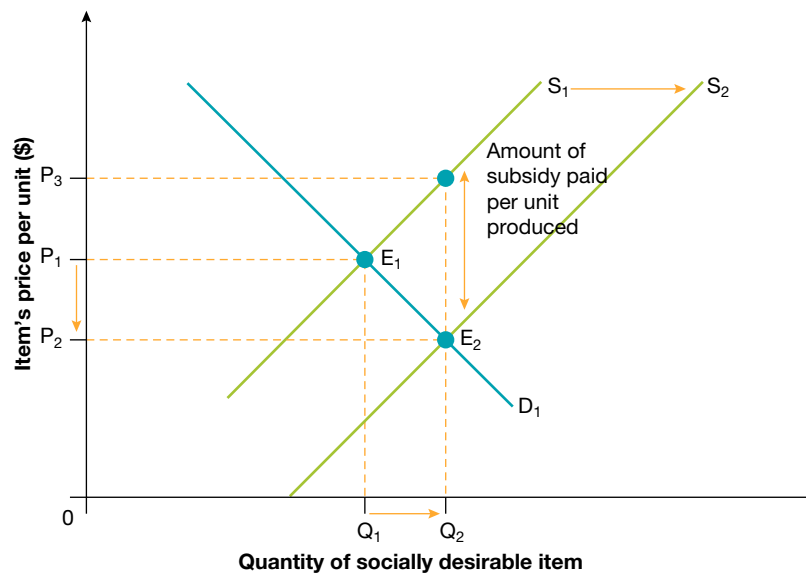


Using government cash subsidies and the provision of free services

A government cash *subsidy* could also be used to encourage consumers of a product to change behaviour that currently causes *negative* externalities. For instance, paying cash incentives to households installing solar panels or rainwater tanks could help reduce negative externalities.

Additionally, in cases where the existence of *positive* externalities leads to the *underproduction* of merit services that are deemed *socially beneficial* such as education and health, a case exists for the government to make more of these services available by paying a subsidy to private producers. Figure 1.27 uses a demand–supply diagram to show the impact of a government subsidy to suppliers. This policy would make supply conditions for firms more favourable. As a result, the supply of the service at any given price would

FIGURE 1.27 The impact of a government subsidy on increasing the allocation of resources towards socially desirable production (e.g. solar panels, public education, health and housing).



increase and thus shift the line outwards from S_1 to S_2 . Additionally, the equilibrium price would fall from P_1 to P_2 . As a result of these changes, the new price paid by buyers would fall to P_2 (making this socially desirable item cheaper and thus more attractive to consume), while the new higher price P_3 received by sellers, would make this socially desirable item more profitable to produce. The price difference — P_3 versus P_2 — represents that value of the government cash subsidy per unit of output produced. Notice, too, that the quantity of this socially desirable good or service has grown from Q_1 to Q_2 , indicating that more resources than previously are allocated to this desirable area, reducing market failure.

Education and advertising to inform the public

When consumers or producers have a complete knowledge of the impacts of their economic activities and consumption, negative externalities are less likely to occur. One approach is for the government to conduct an advertising campaign to educate or inform the public, and to encourage a change in behaviour that will help minimise the problem (for instance, anti-drunk driving and anti-smoking advertisements).

1.9.4 Markets can fail in the provision of public goods

Public goods are products or services consumed collectively by society. They might include defence, police, sanitation, knowledge, fire protection, most non-toll roads, public hospitals and schools, the ABC, national parks, beaches and street lighting. These merit goods and services are generally seen as *socially desirable* or universally beneficial for the community because they often result in *positive externalities*. For instance, the consumption of services including education and public health, bring benefits to the rest of the society (i.e. third parties) who did not pay for them, thereby lifting the community's general wellbeing.

Public goods differ from *private goods* (the items most of us purchase every day) in two ways:

1. **Excludability:** Consumers who don't pay for private goods can easily be refused access. For instance, consumers without the necessary money are *excludable* once they get to pay at the checkout (i.e. they are excluded from buying or accessing the product unless they have the money to pay the price). However, this is not the case with free public goods provided for the community by the government, where consumers are usually *non-excludable* (i.e. those who do not have the money to pay or choose not to pay for a good cannot normally be refused access to that good). This leads to the **free rider problem** in the provision of public goods where consumers who don't pay can still gain access or benefit.
2. **Rivalry:** A person who buys a particular private good, prevents another person from buying or benefiting from that exact same item. These are called *rivalrous* goods. However, this does not occur to the same degree with public goods. Public goods are usually *non-rival* in nature.

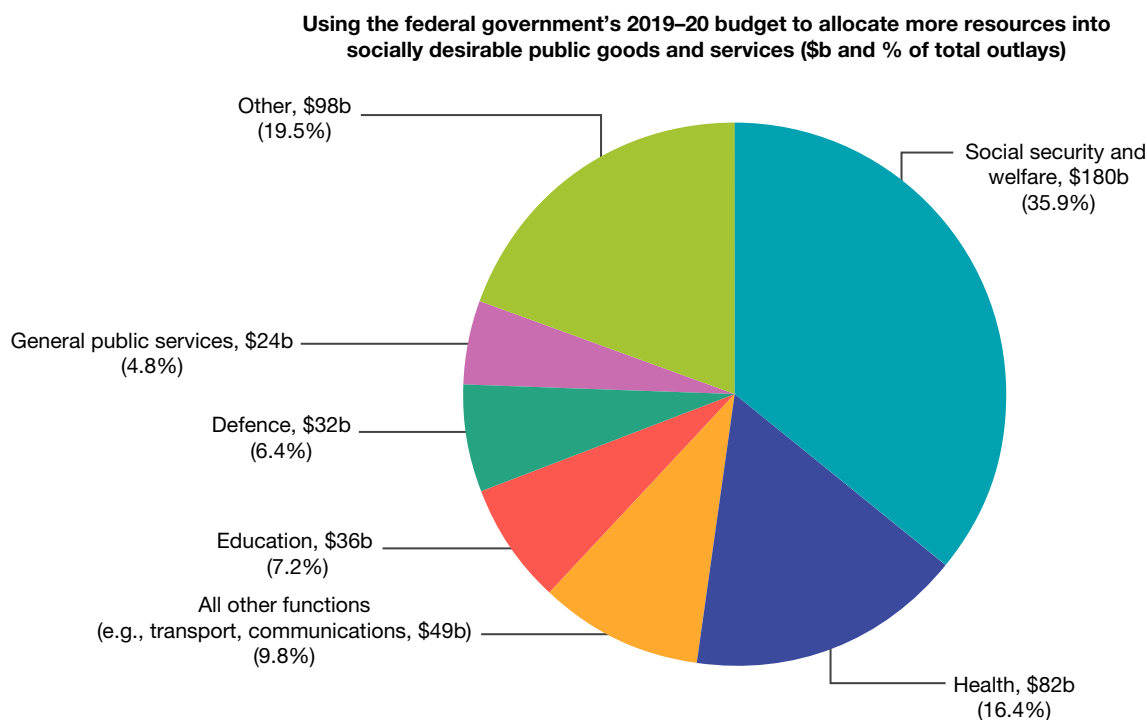
Because it is difficult to force some users of public goods to pay (the free rider problem), returns are low and hence this area is unlikely to attract sufficient resources from the profit-seeking private sector. It means that typically, public goods will be *under-produced* if left to the *private sector*, even though they are seen as beneficial and improve society's overall wellbeing.

For these reasons, the government or public sector is usually left to allocate resources into these areas, often making them available free of direct charge. They are paid for out of tax revenues and made available to all people, even those free riders who do not pay. Government provision of public goods therefore helps to ensure that they are not under-produced. This enhances efficiency and society's general wellbeing.

Using the annual budget to provide public goods and services

The main way that governments direct resources into socially beneficial public goods is through their **budget** outlays on key areas including health, education and defence (normally paid for from the money the government collects in taxes). These goods and services are then provided to the community through various branches of the public sector. This does not necessarily mean that all public goods are directly produced by the government, since a significant proportion of production is contracted out to, or purchased from, private businesses (such as the building of roads, prescription drugs, supplies for public hospitals or military equipment). However, despite the trend towards a user pays system, most public goods are still

FIGURE 1.28 Allocating resources to socially desirable public goods through the federal budget



Source: © Commonwealth of Australia 2019.

usually provided free or at minimal cost to users. For example, the allocation of resources to key public goods by the federal government in its 2019–20 budget is shown in figure 1.28. Clearly these outlays should help to overcome a degree of market failure that otherwise would occur.

1.9.5 Markets can fail in using common access resources

Common access goods include environmental natural resources such as air, minerals, oil, forests, river water and fish in oceans. These goods are *non-excludable* (because it is not possible to exclude users who do not pay), but are also *rivalrous* (because consuming them prevents consumption by others). With common access goods, the market fails to send the proper price signals that lead to an efficient allocation of resources. This is a serious problem for society because the survival of current and future generations may be jeopardised when these goods are used up or degraded.

Clearly there is scope for action by governments to correct failure, both at the national and international level, to ensure that the use of common access goods is sustainable. Let us look at some of these measures.

Environmental laws

Governments could tighten environmental laws to prevent the degradation of environmental resources that we need to access, and ensure that these laws are policed and enforced.

Pricing carbon emissions and other market-based methods for reducing climate change

Some governments have put a *price* (i.e. a cost that alters business profits) on carbon emissions that are associated with climate change, global warming, rising sea levels and severe weather events. They have done this using two main approaches. First, some have introduced a *carbon tax* on polluters (say, \$23 per tonne of CO₂) to encourage firms to change to cleaner, greener production. Other governments (the European Union, Switzerland, New Zealand and parts of the United States) have an emissions trading scheme (ETS) where the carbon price is free to move up or down as determined in the carbon market by the actions of buyers and sellers.

International agreements

The *Kyoto Protocol* is an international agreement signed by many countries from early 2005. Essentially, it commits governments to emissions targets expressed against a base level. It was developed through several stages, with the last agreement negotiated in 2012 and signed by 37 countries including Australia and members of the European Union. A post-Kyoto Protocol legal framework is also being developed, despite the reluctance of key economies such as the United States, China and India to be bound by certain emissions targets.

In 2015, many governments (including Australia) signed up to the *Paris Agreement on Climate Change*. In this agreement, individual countries sought to reduce CO₂ emissions by varying percentages. Our government agreed to a reduction of between 26–28 per cent on 2005 levels by 2030 — a target that seems increasingly challenging to achieve based on current trends. By contrast, Canada approved a 30 per cent reduction, while the European Union agreed to a 34 per cent cut. China's forecast is for a rise of 139 per cent, but one needs to remember that their per capita emissions of just 5.5 tonnes are relatively low by international standards.

Direct Action

In 2014, after the abolition of the carbon tax, the federal government introduced its *Direct Action* policy to reduce carbon emissions. Central to this scheme is a \$2.5 billion emissions reduction fund (ERF). This makes government money available to successful firms who bid in a reverse auction situation, by submitting plans to get the greatest emissions reduction for the lowest possible cost. One report suggested that this policy supposedly reduced our emissions by 193 million tonnes over the period 2014–18. In 2019, a slightly altered version of the policy was announced by adding an extra \$2 billion of taxpayer money for what is now called the *Climate Solutions Fund* (CSF) that will operate in a similar way to the ERF. Nevertheless, because it seems that we might not reach our emissions reduction target set in the Paris Agreement, future governments may well consider other policy options.

Two other reasons for government intervention in a competitive market economy

Apart from market failure, the free operation of a competitive market economy results in at least two other problems: *economic instability* and extreme *income inequality*. If left unchecked by the Australian government, these problems would lower people's general wellbeing or living standards.

Stabilising the level of economic activity

We know that most markets are quite unstable. At the microeconomic level, prices and output vary greatly over a period of time. As we shall see later, this contributes to *macroeconomic instability*, in which a free or unregulated market economy may experience severe inflationary booms (where the purchasing power of money and incomes decreases and living standards are reduced), and recessions or even depressions (where national production falls and unemployment increases, again reducing people's incomes, purchasing

power and living standards). As a result of these problems, the Australian government attempts to moderate the severity of these economic fluctuations using special *stabilisation policies* to help regulate the level of spending and economic activity to help achieve more ideal economic conditions needed for optimal living standards. These policies are the focus of topic 4.

Redistributing income more equitably

The price system (involving the forces of demand and supply) not only determines the price of particular commodities, goods and services, but also greatly affects the relative level of people's wages (the price of each type of labour). As a result of the free operation of the price or market system, extreme *income inequality* may develop, leaving a large gap in wellbeing and living standards between high- and low-income earners. If left unchecked, the level of inequality is likely to increase, lowering the general wellbeing of society. Because of this problem, the Australian government moderates or reduces the extent of inequality by using various redistribution policies like progressive taxes on high incomes, and welfare benefits and free services for the neediest. This helps to create a fairer distribution of income than would otherwise occur.

Reviewing the reasons why governments sometimes interfere with the free operation of the market system

In Australia's market economy, the price system generally makes good decisions that help maximise society's wellbeing. However, as we have seen, sometimes the free operation of the market system fails and creates problems that reduce efficiency and undermine our general living standards. When this occurs, the Australian government often seeks to influence market outcomes. There are at least *three* main justifications for government intervention of our competitive market system.

1. *Reallocating resources to help correct various types of market failure.* Markets do not always make good decisions when, for example, there is market power, asymmetric information, externalities, common goods and public goods. We have also noted that the government attempts to correct these failures by passing laws, and using excise taxes and government budget outlays (including subsidies) to reallocate resources more efficiently. In so doing, society's needs and wants are better satisfied and our living standards are improved.
2. *Stabilising the level of economic activity.* We know that individual markets and hence the whole market economy, can be quite unstable, resulting in inflationary booms and recessions. This reduces society's wellbeing and living standards. As a result, the government attempts to moderate the severity of these fluctuations using special stabilisation policies.
3. *Redistributing income more equitably.* In the absence of government, the free operation of the price system greatly affects the level of people's wages (the price of labour) and contributes to significant income inequality. As we shall see, governments reduce the level of income inequality using special policies (eg, progressive income tax and welfare) to redistribute some income from higher to lower income earners, improving their access to basic goods and services.



Weblinks Market failures and reduced outcomes for society
 Public versus private goods
 Market failure and diminished efficiency in resource allocation
 Externalities

1.9 ACTIVITIES

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Check your understanding

1. What is 'market failure'?
2. Identify and explain *two* important instances of market failure, suggesting government policies that might help to correct these failures.

Applied economic exercises

1. (a) Select any *three* of the following areas of market failure and explain how and why the market fails to allocate resources efficiently.
 - i. Asymmetric information
 - ii. Market power or weak competition
 - iii. Public goods and services
 - iv. Externalities
 - v. Common access goods

(6 marks)
- (b) Select any *four* of the following situations and then identify and outline the possible type(s) of *market failure* involved.
 - i. A person with contagious whooping cough pays \$80 to see a doctor and have a vaccination.
 - ii. Toxic waste is poured down the sink.
 - iii. A mining company extracts and sells brown coal.
 - iv. You get driven to school rather than walking, even though it's only 900 metres away.
 - v. You purchase a cool-looking T-shirt online to be sent from China.
 - vi. Loggers clear rainforest for farming.
 - vii. The neighbours throw a wild party that rages for days.
 - viii. A director of a technology company, knowing that the company is about to fail, sells her shares before the announcement is made to the public.
 - ix. After a serious road accident, an injured woman has to wait 24 hours before being able to get treatment in a hospital's busy emergency department.
 - x. Water and power companies decide to increase their charges to customers by 30 per cent in one year.
 - xi. A director of a car company fails to inform customers that the cars' emissions and other specifications were incorrect.
 - xii. You sell your smartphone after dropping it into a cup of coffee.

(4 marks)
- (c) One way the federal government can try to correct some types of market failure is using aspects of the budget. Examine table 1.8 showing estimates of the federal government's major budget receipts and budget outlays for 2019–20.

TABLE 1.8 Federal government estimates of selected budget receipts and outlays for 2019–20

Type of budget tax revenue	\$b (rounded)	Type of budget outlay	\$b (rounded)
Income tax on individuals	234	Social security and welfare	180
Company & resource rent taxes	102	Health	82
Sales tax (including GST)	71	Education	36
Excise taxes	24	Defence	32
Customs duty	21	General public services	24

Source: © Commonwealth of Australia 2019.

- i. Select *one budget receipt* and *one budget outlay*. For each chosen item, explain *how* the policy measure might affect the way Australia uses or allocates its scarce resources. **(3 marks)**
- ii. For each of the two items identified in part (i) above, explain *why* the government uses the particular policy to alter the allocation of our resources. **(3 marks)**
- (d) With the use of a labelled demand–supply diagram, explain how the imposition of a carbon tax on companies that pollute, starting at \$23 per tonne (where the amount of tax reflects the annual number of tonnes of carbon dioxide pollution released into the atmosphere), could have influenced Australia's *resource allocation* between 2012 and 2014, and improved efficiency. **(3 marks)**
- (e) Explain what is meant by the *free rider* problem in the provision of public goods as an area of market failure. If left to the private sector, why would defence, the police and street lighting be *under-produced*, even though they bring wide social benefits? **(2 marks)**
- (f) Identify and explain *two* policies the government could use to help overcome the *free rider* problem. **(4 marks)**
- (g) Government subsidies can be used to reduce some types of market failure.
 - i. What is a government *subsidy*? **(1 mark)**
 - ii. Explain how subsidies paid to Australia's sugar growers or suppliers to leave the industry would alter the allocation of resources that would otherwise occur in a market economy. Illustrate the impact of this type of subsidy, using a hypothetical demand–supply diagram for the sugar market, to show the *before* and *after* effects of the payment. **(3 marks)**
- (h) Under Australian law, ingredients must be listed on the packaging of processed foods. How might this help reduce market failure associated with the consumption of these goods? **(2 marks)**
- (i) Outline the market failure that may be associated with online dating sites. **(2 marks)**
- (j) Explain why the government provides free vaccinations to school children and some older citizens. **(2 marks)**
- (k) The federal government currently pays a *tax rebate* of up to 30 per cent for those individuals taking out or buying private health insurance. This is because it helps to correct market failure, improve resource allocation towards socially desirable public goods and services, eases pressures on public hospitals and ultimately improves government finances. With the help of a fully labelled demand–supply diagram, explain how this action by the government might help to correct market failure. **(3 marks)**
- (l) The government applies various policies to help reduce *market failure*. Use small, fully labelled D–S diagrams, each representing a particular market, to illustrate hypothetically, the impact of various government policies listed below, on market demand, supply, price, quantity traded and the allocation of resources. Show the market *before* and *after* the change in government policy.
 - i. The removal of tariffs on imported cars on the local car market.
 - ii. Lifting the legal age for the purchase of alcohol to 21 years on the market for alcohol.
 - iii. The government allowing the merger of the two largest oil companies.
 - iv. The introduction a tax on firms generating electricity using brown coal, and the effects on the electricity market, the market for brown coal and the market for renewable energy sources.
 - v. Applying a tax on foreign buyers of Australian property on our property market.
 - vi. Freight subsidies paid to Tasmanian fruit growers, on the market for apples in other states. **(6 marks)**

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1.10 Government intervention in markets that unintentionally leads to decreased efficiency

KEY CONCEPT

- one contemporary example of government intervention in markets that unintentionally leads to a decrease in the efficiency of resource allocation

We have seen that sometimes government intervention is necessary to reduce market failure, increase efficiency and satisfaction in resource allocation, and optimise society's general wellbeing. However, sometimes government regulation of various markets also has unfortunate and *unintended negative consequences* or external costs for third parties, reducing efficiency and society's general wellbeing. This is called *government failure*.

The current VCE course requires that students select one contemporary example of government intervention that has decreased efficiency in resource allocation.

Three contemporary Australian case studies of possible government failure could include:

1. Setting the minimum wage artificially high to help protect the living standards of low-income employees may unintentionally have lowered efficiency by:
 - reducing incentives and international competitiveness
 - causing structural unemployment
 - adding to income inequality.
2. Using government policies designed to help reverse the declining trend in home ownership and affordability may have unintended consequences that lower society's wellbeing and lead to failure by:
 - helping to increase the demand for first homes that could raise the price and reduce the affordability of first homes
 - Encouraging those individuals who may not be able to afford to make loan repayments, later creating financial stress and the possibility of negative equity during times of falling house prices.
3. Paying subsidies to the coal industry to encourage production and employment may have unintentionally reduced efficiency by:
 - accelerating climate change and adding to negative externalities
 - creating large opportunity costs for society.

1.10.1 Unintended problems of setting a minimum wage in the labour market

Under a free and purely competitive labour market, wages levels would be set at equilibrium by the forces of labour demand and supply. In theory, wages would rise if labour demand exceeded supply, or fall if supply exceeded demand. Worker wages and conditions would be individually negotiated between a worker and his or her boss on a firm-by-firm basis, without government interference or regulation.

While this sounds fair in theory, in practice it was found that some staff, already working long hours and under poor conditions, were paid such low wages that they could not support their families and enjoy even austere living standards. In a landmark decision called the Harvester Judgement of 1907 (shortly after federation), the Commonwealth Court of Conciliation and Arbitration (an earlier equivalent of today's Fair Work Commission or FWC) determined that wages at McKay's Sunshine Harvester Company were too low and were not 'fair and reasonable' for a 'civilised community'. Since then, wages have generally been increased in most years (in 2019–20, the minimum wage was set at \$740.80 for fulltime adults, with a lower rate for youths).

For the past 113 years, many people have felt that at least some government intervention in the labour market is beneficial because it helps to achieve the following:

- provide a safety net wage for low-paid workers and reduce poverty
- avoid exploitation of employees by profit-seeking business owners keen to minimise their costs
- increase the reward or incentive for employment and participation in work, boosting efficiency in the use of resources
- improve equity or fairness in society by protecting and lifting the consumption levels or purchasing power of workers, and increasing the extent to which society's wants are satisfied
- reduce income inequality and poverty
- allow individuals to have frugal comfort and enjoy socially acceptable living standards.

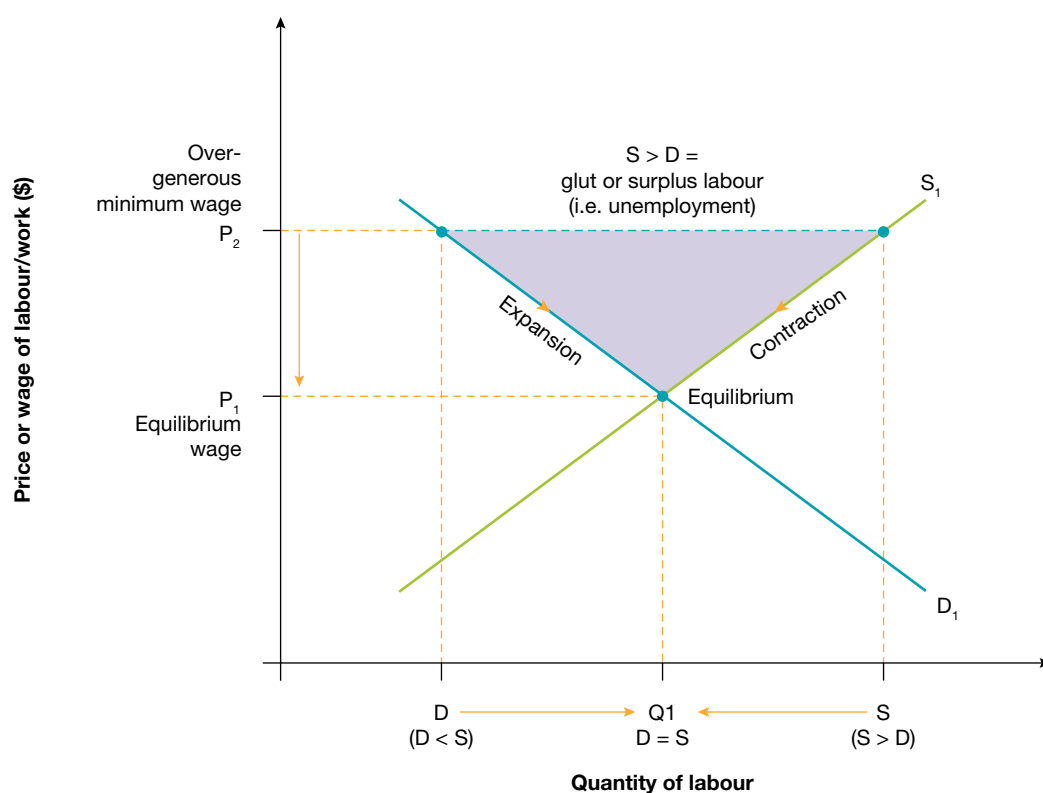
On the other hand, despite good intentions, some economics commentators note that government wage regulation has resulted in unintentional and negative outcomes for optimal resource allocation. They argue that there can be a *trade-off* between promoting greater *equity* on the one hand through an artificially high minimum wage and encouraging *efficiency* on the other. More specifically, some critics raise the following problems associated with setting an artificially high minimum wage:

- *Slow the growth in labour productivity:* Setting artificially high minimum wages disconnects pay levels from the value of people's work, as set by market forces. This may act as a disincentive for improving labour productivity and discourages an efficient use of resources. In turn, this is likely to slow the growth in a nation's productive capacity and reduce the sustainable rate of economic growth.
- *Increase our trade deficit:* Artificially high wages and low productivity make local firms uncompetitive against their overseas rivals and thereby add to an international trade deficit.
- *Increase the level of structural unemployment:* Setting artificially high wages can cause some local businesses to closure because they are less competitive. Some may relocate overseas. Locally, this causes higher levels of structural unemployment.
- *Increase inequality in income distribution:* By increasing structural unemployment, the setting of artificially high minimum wages can in some ways, undermine equity in income distribution (especially in the long term), hurting vulnerable members of society. In addition, inequality is worsened because excessively high minimum wages discourage employment, cause firms to reduce the number of hours that staff work and hence depress incomes and purchasing power. Furthermore, by increasing unemployment, they add to the number of people dependent on inadequate government welfare payments of perhaps \$250–\$350 per week (as opposed to perhaps \$1600 per week on average weekly earnings). Clearly, lower incomes and purchasing power significantly reduce efficiency and society's general wellbeing.

Some of the unwanted outcomes of setting Australia's **minimum wage** can be illustrated in figure 1.29. Referring to this diagram, notice that normally the free market equilibrium wage or price would be at P_1 where the demand (D_1) and supply (S_1) of labour would be equal. However, when the minimum wage is set too high at P_2 , well above the clearing wage or equilibrium, a market glut occurs where the supply of labour exceeds the demand for labour (see the shaded triangle). In other words, the minimum wage causes structural unemployment as artificially high costs and hence lower profits cause business closures. With rising unemployment comes lower incomes, along with reduced living standards and general wellbeing.

What do recent international studies reveal about these *unintended effects* of governments raising minimum wages? Although the answer is not a simple one, there is some agreement that as long as the minimum wage is 'moderate' (as a percentage of average weekly wages), the adverse effects are likely to be relatively small in the short term. However, if wages are set too high, experience from some countries shows that job losses are likely to be significant. Given that Australia has one of the highest minimum wages in the world, perhaps there is cause for real concern.

FIGURE 1.29 Demand–supply diagram representing the labour market showing how Australia’s minimum wage may contribute to unemployment and other unwanted outcomes.



Additionally, in the long term and for inexperienced unskilled workers in younger age groups where the demand for labour is fairly elastic, wage rises do appear to cause unemployment, reduce hours of employment and be generally detrimental. For example, European studies showed that a 10 per cent rise in the government minimum wage unfortunately led to a decrease in youth employment by up to 4 per cent, along with a reduction in efficiency in the use of resources.

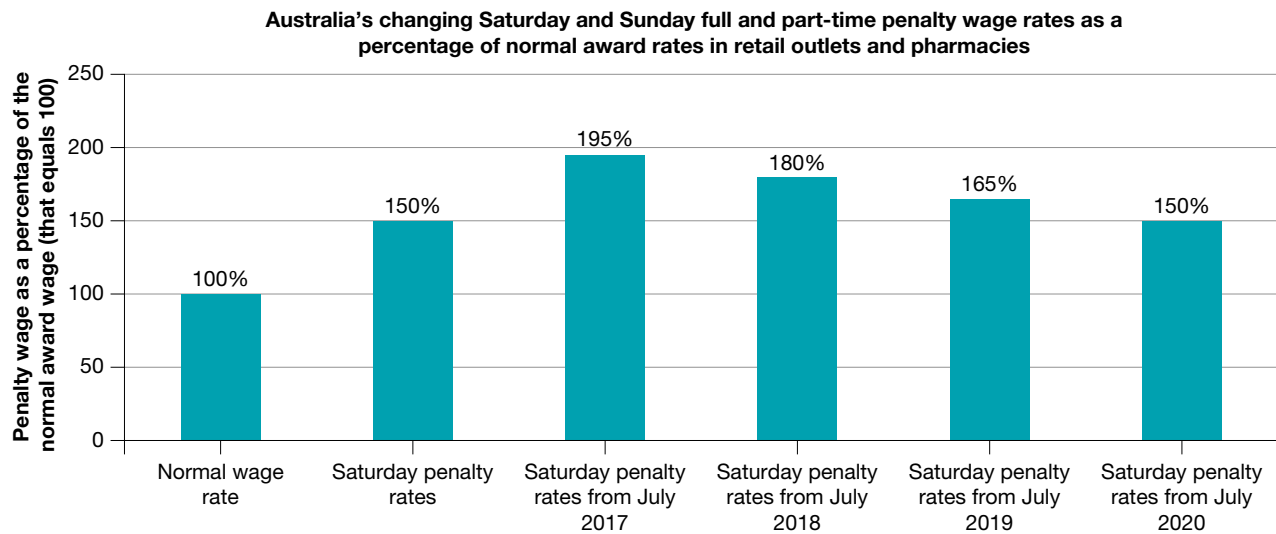
In an attempt to moderate these *unintended adverse effects of wage regulation*, there has been considerable *labour market deregulation* over the years. This has involved reducing unnecessary government controls, extending firm-by-firm workplace agreements where wage changes more closely reflect productivity levels, and allowing greater flexibility in employment arrangements.

In 2015, the Productivity Commission reviewed the impacts of Australia’s Fair Work laws including the operation of the minimum wage and the application of *penalty rates of pay* (i.e. the payment of higher minimum rates of pay for working outside normal hours), on efficiency and productivity growth. It recommended that Sunday penalty rates in industries such as retail, hospitality and pharmacies be abolished and brought into line with the lower Saturday pay rates. Following this, in February 2017, the Fair Work Commission made its final decision to gradually reduce Sunday and public holiday penalty rates for all wage awards for hospitality, retail and pharmacy workers. While there are some variations between different areas or awards and for those in different employment situations, figure 1.30 shows the gradual transitional arrangements to phase in lower Sunday rates and bring them in line with Saturday penalty rates between 2017 and 2020.

In one sense, these changes that *reduced* the level of government wage regulation acknowledged that there were *unintended consequences* on society’s general economic wellbeing of artificially setting higher wages than would otherwise prevail in the labour market. Indeed, some argue that reducing penalty rates on Sundays and public holidays should help:

- create more jobs and employment opportunities (especially for young people where unemployment rates are high) by making it more profitable for firms in retail and hospitality to stay open for longer trading hours
- increase efficiency in the use of labour and other resources, thereby growing the economy's productive capacity and incomes, thereby enhancing our wellbeing.

FIGURE 1.30 Scheduled reductions in Australia's Sunday penalty wage rates as part of labour market deregulation to reduce unintended consequences of government wage regulation



Source: Data compiled from Fair Work Commission, WA Chamber of Commerce and *Retail Wages News*.

1.10.2 Unintended consequences of the government's attempts to encourage home ownership and affordability as a possible failure

Part of the 'Australian dream' is to own a house. However, in the space of just five years to 2017, average capital city house prices rose by around 70 per cent (in the case of Sydney) and over 50 per cent (in the case of Melbourne), making ownership less affordable for most.

Many non-price demand and supply factors have recently combined to drive up prices in the property market. On the demand side, these included very rapid population growth of around 1.6 per cent due in part to natural increase and immigration; better jobs and employment opportunities are to be found in the big cities where poor transport systems increase the demand for land close to the city; record low interest rates on home loans or mortgages of less than 4 per cent have made debt repayments cheaper and more affordable; and the existence of limits to the supply of new land in capital cities due to their geographic constraints and zoning. Indeed, speculative demand for property was also fuelled by government policies including negative gearing and the 50 per cent tax discount on the capital gains made from the sale of property after selling at a higher price than that paid at purchase. Together, strong demand and a limited supply in the property market, drove prices up till 2017, allowing some people to rapidly grow their wealth.

While the property boom has recently slowed and prices fell during 2018–19 in most cities, they are still way too high for many first home buyers to afford. Apart from relatively high property prices, home ownership is also less affordable because average wages and incomes have only risen very slowly or in some cases, fallen, and there has been an increase in the casualisation of employment. All this has made saving the required 20 per cent deposit to secure a bank home loan impossible for some (the average time needed to save the deposit is now 10 years or double what it used to be some years ago), shattering dreams of ownership.

In response to this problem in the property market, the Australian government has attempted to help make home ownership more affordable through various types of intervention. For instance, there have been schemes involving low interest or subsidised loans, deposit grants from the government and the use of superannuation to help generate the required deposit. Even so, despite the good intentions behind these measures, many believe that such government intervention has failed. In 2019, the Australian government released its latest policy to start in 2020. This policy has the following features:

- First home buyers could access the property market with as little as a 5 per cent deposit as they would not have to pay the hefty Lenders Mortgage Insurance. This would be guaranteed by the government to make up the total 20 per cent deposit requirement.
- The scheme will be limited to the first 10 000 people. However, this would only represent less than 10 per cent of those 127 000 who would have been eligible for this in 2018.
- The scheme is means tested. This is designed to exclude those buyers on relatively high-income above \$125 000 per year in the case of a single, or \$200 000 combined income for a couple.

At the time of the policy release by the Coalition government, Labor also endorsed the measure that had some common features with previous attempts to make home ownership more affordable. Another claimed benefit of the scheme is that it may help stimulate spending and jobs in our currently weak economy.

However, while the government's policy intervention in the property market looks quite appealing and may help in a limited way to lift ownership, not everyone appears convinced of its merits. Some critics say that like most previous attempts, this policy may also fail because helping people meet the deposit requirement is only going to stimulate the demand for property without raising its supply, perhaps pushing up prices in the low-end property market for first home buyers. This would mean that buyers would have to save an even larger deposit, thereby unintentionally, making ownership even more difficult! Furthermore, some commentators have pointed out that by helping more people to meet the deposit requirement, this could be very dangerous in a market where high prices have been falling, because those with loans have an asset that is worth less than what they paid (they could end up with negative equity). Here, owners would be unable to sell, instead, they would be saddled with a heavy burden of debt.

If, like some other previous policies in this area, property ownership is unintentionally made less affordable, it could represent a contemporary example of government failure. Only time will tell whether those people whom the policy was intended to help, may actually be worse off.

Because of the uncertain impacts of this and its other policy predecessors, some critics have suggested that there other more effective policy measures to curb demand by targeting multi-property owners who are taking advantage of negative gearing and the capital gains tax discount. This, along with a smaller immigration intake and improved public transport, might do more to slow the hike in property prices and the severe decline in Australia's home ownership from 71 per cent in 1968 to around 64 per cent in 2019.



1.10.3 Unintended problems of allocating resources into subsidies for the coal industry

A *subsidy* exists when the government provides producers of goods with a cash payment or other type of financial assistance like a tax concession. It is usually designed to increase production levels, encourage new industries to start up and old ones to restructure their operations more efficiently, generate jobs and overcome market failure associated with the underproduction of goods with social benefit.

In Australia, governments subsidise the coal industry. A study released in September 2015 (*Assessing Thermal Coal Production Subsidies*, see <http://www.carbontracker.org/report/coal-subsidies/>) revealed the extent of the Australian government's assistance to the coal industry:

- Large domestic and multinational companies received government subsidies equal to around \$1.8 billion each year.
- The coal subsidy amounted to about \$5.20 for every tonne produced.
- Subsidies to the coal industry also come in the form of an excise tax exemption on the diesel fuel used to run mining equipment. This is estimated to be worth perhaps \$2–3 billion each year.
- State and federal governments have partly funded the cost of building rail, port, water and other infrastructure, for some coal projects.
- There are accelerated depreciation costs for mining equipment used to offset the taxable profits of companies.
- Miners can instantly write off the costs of exploration and prospecting against their tax liabilities.
- There are apparently accumulated and unfunded rehabilitation costs to restore the mining site at the end of mining operations that could total a whopping \$18 billion (according to independent analysis by Lachlan Barker in May 2015), far in excess of the upfront bonds paid by companies.

This assistance makes coal mining even more profitable for both locally owned and transnational foreign companies including the proposed massive Indian-owned, Adani coal mining project in Queensland. From a company's point of view, this is a favourable microeconomic supply-side factor that makes them more willing and able to produce coal. It leads to business expansion and an increase in the allocation of scarce resources to this industry, including the creation of more jobs. The subsidy also increases our GDP and incomes, and hence in some ways may increase material living standards. Finally, some politicians have recently argued that growing the coal industry is not only good for Australia, it is good for the world's poor by allowing them as consumers to have improved access to cheap energy and power to fuel economic and employment growth.

Despite these good intentions and possible benefits of government intervention in the coal market, it can be argued that the policy is a strong example of *government failure* where there is an unintentional net loss of wellbeing, causing overall living standards to be lower both now and into the future. In particular:

- *Increased negative externalities:* Government coal subsidies effectively mean that taxpayer money is being used to encourage the production of dirty, high carbon-intensive fossil fuels, the burning of which leads to severe *negative externalities*. These problems include increased CO₂, global warming, severe weather events and climate change affecting the wellbeing of Australians and other members of the international community. Especially in the absence of an effective price on carbon pollution, subsidies to this industry further weaken and distort the price signals in the coal market by encouraging the overproduction and consumption of coal.
- *Massive opportunity costs:* There are massive *opportunity costs* of paying coal subsidies out of government budgets. Indeed, the reduction of coal subsidies would release billions of dollars in extra resources that could be used to help the needy here and abroad, improve welfare, and strengthen our health and education systems that are starved for funds. How much more might these outlays improve society's general wellbeing than subsidies to coal mining companies? In a study of budget subsidies for the mining industry (not just for coal but also other mining operations) by state governments over a six-year period that totaled \$18 billion, the Australian Institute calculated some of the possible opportunity costs for taxpayers. These are shown in figure 1.31.

FIGURE 1.31 Some potential opportunity costs of government subsidies to Australia's mining industry.



Source: © The Australian Institute.

on Resources

-  **Weblinks** Reasons against government intervention
Market failure and government intervention

1.10 ACTIVITIES

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Check your understanding

1. What is meant by *government failure*?
2. Identify and outline an important example of government failure.

Applied economic exercises

1. (a) Using a demand–supply diagram, explain why some economists believe that setting *minimum wages* and conditions in the labour market represents an instance of government failure. **(3 marks)**
(b) Discuss the advantages and disadvantages of the government policy to reduce the minimum home loan deposit to just 5 per cent for up to 10,000 first-home-buyers, by acting as guarantor for the remainder of the loan deposit requirement. **(4 marks)**
(c) Discuss the advantages and disadvantages of governments paying *subsidies* to Australia's coal mining industry. **(4 marks)**
(d) In what way would the government's use of higher tariffs on imported goods represent an example of government failure? **(2 marks)**
(e) When there are instances of government failure, what is *one* of the *solutions* typically used? **(1 mark)**

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1.11 Review

1.11.1 Summary

What is economics?

- *Economics* is the study of how to use limited resources efficiently to maximise the general satisfaction of society's material needs and wants, and their overall living standards.
- Economic problems can be studied from both a *microeconomic* and a *macroeconomic* perspective.
- A basic assumption in economics is that *resources or productive inputs* are relative to the resources available to produce goods and service.
- Scarce resources include natural, labour and capital inputs used in production.

Relative scarcity

- Relative scarcity is seen as the basic economic problem. It arises because there can never be enough goods and services produced from the limited resources available to a nation, to satisfy the unlimited wants of households, businesses, governments and people overseas.

Opportunity costs

- *Given the problem of scarcity, society is forced to make choices or decisions* about how to use or allocate resources in ways that best satisfy society's needs and wants. However, all choices involve opportunity costs as production is forgone in one area to release resources for an alternative use. However, some choices involving resource allocation are more efficient than others, and better maximise the general satisfaction of society's wants, wellbeing and living standards.
- Economists use a production possibility diagram (PPD) to help illustrate the concept of opportunity costs associated with various decisions and developments. On this diagram, the production possibility frontier (PPF) shows the physical limits to a nation's production of goods and services when all

resources are fully and most efficiently used. For a nation on its PPF, a decision to increase production of, say, goods means foregoing production of some services. It can also be used to illustrate the effects of changes in the availability of resources on a nation's productive capacity or potential output.

Scarcity necessitates answering three economic questions

- Nations rely on an *economic system* for making key *economic* choices about how limited resources should be used. This involves deciding:
 - 'what and how much to produce'
 - 'how to produce'
 - 'for whom to produce'.
- Most countries including Australia make these key economic decisions about allocating limited resources between competing uses, through the operation of the *market system*. Understanding how the market works to allocate scarce resources involves the study of *microeconomics*.

The role of markets and relative prices in allocating resources

- The *market system* (also called the *price system* or *market mechanism*) is a *decision-making institution* at the centre of most economies found around the world.
- Not all markets have the same features, characteristics or structure. While *market structures* vary and might include perfectly competitive, monopolistic competition, oligopoly and perfect monopoly type markets, this course focuses on perfectly competitive markets
- *Perfectly competitive markets*: Typically these markets can only exist if they meet certain *pre-conditions* such as the following:
 - strong competition between many rival sellers
 - the absence of market power to set prices by an individual seller (price takers)
 - ease of entry (low barriers to entry) and exit from the market
 - perfect knowledge of the market by buyers and sellers
 - the absence of product differentiation (a homogeneous product)
 - the existence of consumer sovereignty.
- The *competitive market system* involves interaction between two sets of forces in each market: the forces of *demand* (by buyers or consumers) on the one hand, and the forces of *supply* (by sellers or producers) on the other. Together, these groups negotiate the *relative price* (the price level of one good or service against that for another) or each good or service. Over time, the relative price of one good or service changes against that for another, thereby affecting the relative profitability of each good or service. Profit-seeking owners of resources carefully watch these price signals and use them to make decisions about how scarce resources should be allocated between competing uses, usually without the need for significant government regulation.
- In a perfectly competitive market, a *rise* in the final price for a particular good or service (relative to the prices of other goods and services) may signal that there has been underproduction, where firms need to allocate more resources and lift output volumes of that given good or service to maximise profits. By contrast, a *fall* in the relative price of a good or service indicates that there has been overproduction where owners of resources need to cut output and move resources into other more wanted uses in order to maximise profits.
- *Demand–supply diagrams* illustrate the forces of demand and supply.
 - *The law of demand* states that the quantity of a good purchased or demanded varies inversely with a change in price, giving the demand curve or line a negative slope. So a rise in price causes demand to contract, while a fall in price causes demand to expand. Here we refer to *movements along* the demand line. In addition, changes in *non-price demand conditions* (e.g. changes in disposable income, the price of substitutes, fashions) can cause buyers to be prepared to purchase a greater or smaller quantity of a good at a given price, thereby shifting the position of the whole demand line to the right or left of the original line, thereby altering the market equilibrium price and quantity, profitability and the allocation of resources.

- *The law of supply* states that the quantity of a good produced or supplied varies directly with a change in price. So a rise in price causes supply to expand, while a fall in price causes supply to contract. Here we refer to *movements along* the supply line. In addition, changes in *non-price supply conditions* (e.g. changes in production costs, climatic conditions) can cause sellers to be prepared to produce a greater or smaller quantity of a good at a given price, thereby shifting the position of the whole supply line to the right or left of the original line, altering the market equilibrium price and quantity, profitability and the allocation of resources.
- *Elasticity* is a concept that describes the relative responsiveness (whether there is a large or small contraction or expansion) of demand and supply following price changes.
 - Where the quantity demanded or supplied expands or contracts greatly, following a change in price, it is said to be relatively *elastic*.
 - Where the quantity demanded or supplied expands or contracts little, following a change in price, it is said to be relatively *inelastic*.
 - The *elasticity of demand* is affected by factors such as the availability of substitutes and degree of necessity.
 - The *elasticity of supply* can be affected by factors like storability and level of spare capacity.

Market failure

- The market fails when resources are allocated inefficiently to produce particular types of goods and services that fail to maximise or best satisfy society's wants, general wellbeing and overall living standards.
- There are at least *five* situations where *market failure* can occur:
 - positive and negative externalities arising out of the production and consumption of goods and services
 - the provision by the private sector of socially desirable public goods
 - problems in the use of common access resources
 - asymmetric information
 - the exercise of market power or weak competition.
- Market failure lowers efficiency in resource allocation and general living standards.
- Governments try to *reduce* market failure and raise society's general living standards and wellbeing by intervention and regulation of the price or market system using, for example:
 - using various types of indirect tax
 - changing the types of budget outlays including subsidies and industry assistance
 - undertaking the direct production of goods and services by the public sector,
 - improving society's knowledge through informative or educational advertising campaigns, and enhancing communication systems
 - making new laws and passing legislation.

Government failure

Government failure occurs when intervention or regulation of a market results in unintentional and unwanted outcomes that diminish efficiency in resource allocation and society's general wellbeing. Some possible examples of government failure might include:

- Setting *artificially high minimum wages* and working conditions to help low-income workers enjoy better purchasing power and living standards, may unintentionally make local firms less internationally competitive, and lead to business closures, youth unemployment, welfare dependence and higher taxes to support welfare.
- The Australian government has attempted to use a number of schemes designed to reverse the downward trend in home ownership. The latest scheme, due to start in 2020, runs the risk of failing because it may increase the demand for housing and drive up property prices even higher, *making ownership less affordable* and reducing society's general satisfaction of wants, wellbeing and living standards. If this occurs, it would be seen as an example of government failure.

- The payment of huge *government subsidies to the coal mining industry* were designed to lift production, create jobs and grow our export income. However, unintentionally, this has encouraged an industry that has massive environmental external costs that contribute to climate change and undermine society's wellbeing. Subsidies also involve significant opportunity costs where the same value of resources going into social programs, could have added far more to efficiency and society's overall wellbeing.

on Resources

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1.11.2 Key terms

Allocative efficiency is where resources are used in ways that maximise society's satisfaction of needs and wants. Resources are diverted to where they are most wanted.

Asymmetric information exists in a market where buyers lack complete information required to make rational decisions about how to use their resources.

Budget A document that sets out the government's planned income and expenses for the next financial year. Spending on public goods and services in the budget mostly comes out of government taxes.

Capital resources are physical plant and equipment used by firms to help make other goods and services.

Common access goods include the environmental natural resources such as air, minerals, oil, forests that we all depend on. They are typically *non-excludable* but yet are *rivalrous*.

Conditions of demand are the non-price factors that affect the quantity of a good or service that buyers are prepared to purchase or demand at a given price. They shift the position of the whole supply line.

Conditions of supply are the non-price factors that affect the quantity of a good or service that producers are willing to make available at a given price. They shift the position of the whole demand line.

Consumer sovereignty exists when consumers of goods and services, not governments, dictate how resources will be used.

Demand refers to the quantity of a good or service that consumers are willing to purchase at any given price. This can be shown by a demand curve or line.

Demand–supply diagrams illustrate the behaviour of buyers and sellers of a particular good or service in a market, and how prices are determined.

Economic efficiency exists when there is maximum output gained from a given volume of productive inputs, thereby maximising society's general wellbeing and material living standards. It can mean allocative, dynamic, productive and intertemporal efficiency.

Economic system or economy is a way of organising the production and distribution of the nation's goods, services and incomes.

Economics examines choices or decisions whereby limited resources are used to produce goods and services to help satisfy needs and wants, and improve living standards.

Elasticity measures the responsiveness of the quantity of a good or service demanded or supplied when there is a change in its price.

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

Externalities represent a market failure and are the costs or benefits that arise from the economic activities of firms and households that are passed on to third parties not directly involved in the original activity.

Free rider problem occurs when a service is provided but payment is difficult or almost impossible to extract from the users who benefit from it (e.g. national defence, police and street lighting). Users are non-excludable.

Government failure occurs when the government intervenes in a market using various policies that are intended to improve efficiency in resource allocation and living standards, but which unintentionally, lowers the general satisfaction of society's wants and wellbeing. Possible examples could include subsidizing the coal industry, setting the minimum wage and perhaps schemes to increase housing affordability and ownership.

Labour resources used in production are physical power and mental talents provided by employees.

Law of demand states that the quantity of a good or service demanded varies inversely to price. As the price rises, demand will *contract along* the demand curve or line, while a fall in price will cause demand to *expand along* the demand curve or line.

Law of supply states that the quantity of a good or service supplied varies directly with price.

Macroeconomics is a branch of economics that examines the workings and problems of the economy as a whole (i.e. consisting of the sum of all markets and industries). It focuses on aggregate demand, GDP, inflation and unemployment nationally.

Market A decision-making institution where buyers (demanders) and sellers (suppliers) negotiate the price for a particular good or service.

Market capitalist economy An economic system that relies mostly on the market or price system to make key decisions about what to produce, how to produce and for whom to produce. Resources are generally privately owned.

Market failure occurs when the price system allocates resources inefficiently, reducing the overall satisfaction of society's wants, wellbeing and living standards. This can occur when there is weak competition, externalities, public goods, common access resources and asymmetric information.

Market glut occurs where the quantity of a good or service supplied at a given price exceeds the quantity demanded at that price, causing the equilibrium market price to fall.

Market shortage occurs where the quantity of a good or service demanded at a given price exceeds the quantity supplied at that price, causing the equilibrium market price to rise.

Market structure refers to the type and level of competition that exists in various markets, such as monopoly or pure competition.

Microeconomics is a branch of economics that examines individual decision making by firms and households, and how this impacts on a particular market for a single good or service.

Minimum wage Set by the Fair Work Commission and is the lowest wage that an employee can be legally paid.

Monopolistic competition exists when there are quite a few rival producers of a good or service, selling a differentiated product that gives them some market power.

Natural resources are the resources found in nature, such as minerals, rainfall.

Oligopoly exists where a few large firms control the output of an industry or product for which there is no close substitute.

Opportunity cost is equal to the benefit forgone by a decision not to direct resources into the next best alternative use.

Price elasticity of demand measures the responsiveness of the quantity of a product demanded given a change in its price.

Price elasticity of supply measures the responsiveness of the quantity of a product supplied given a change in its price.

Price is the purchase cost or amount paid in exchange for a good or service.

Production possibility diagrams are used to illustrate the production choices available to society in the ways that resources may be used or allocated. They also help illustrate the concept of opportunity cost.

Productive capacity represents the physical limit to a nation's production level, when all resources are used as efficiently as possible to gain the highest output. It is represented by the production possibility frontier on a production possibility diagram.

Public goods such as street lighting, education, defence, the police force, national parks and health are seen as socially beneficial, merit-type goods and services that are often associated with positive externalities or benefits for third parties. They are also non-excludable and non-rival in nature. This creates market failure and a problem for their provision, since those who choose not or cannot pay for them, are still able to consume them and gain benefit. This means lower profits and hence, if left to the private sector to provide, they would normally be under-produced, reducing efficiency in resource allocation and society's general wellbeing.

Pure or perfect competition exists when there are many buyers and rival sellers competing strongly in a market. Pure competition implies that firms are price takers, potential competitors can easily enter and exit the market, there is perfect knowledge of relevant conditions in the market allowing buyers and sellers to make rational decisions, and so on.

Pure or perfect monopoly exists when a single firm controls the output of a particular market. That firm is a price maker and competition is weak.

Relative prices describe the price level of one good (such as wheat) or service (such as health) compared with the price level of another good (such as wool) or service (such as education). Changes in relative prices (price signals) normally affect the relative profitability of different types of goods and services, and hence help dictate how scarce resources are used or allocated.

Relative profits describe the level or rate of profit gained from producing one type of good or service compared with the profit gained from producing an alternative good or service, altering how resources are allocated. Changes in the relative profit of producing a good or service reflects changes in relative prices.

Relative scarcity is the basic economic problem. It exists because society's wants are virtually unlimited yet the productive resources available to satisfy them are limited. This necessitates choices about which wants will be satisfied first, resulting in opportunity costs.

Resource allocation relates to decisions about which types of goods and services will be produced and which wants will be satisfied. This may be decided by either the market system or by government economic planning.

Resources are productive inputs and include natural, labour and physical capital used by businesses.

Supply refers to the quantity of a particular good or service that sellers are willing to make available at any given price. This can be shown by a supply curve or line.

Resources

 **Digital documents** Key terms glossary (doc-31485)
Crossword (doc-31489)
Wordsearch (doc-31490)
Match-up definitions (doc-31491)

1.11 Review questions

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1.11 Exercise 1: Multiple choice questions

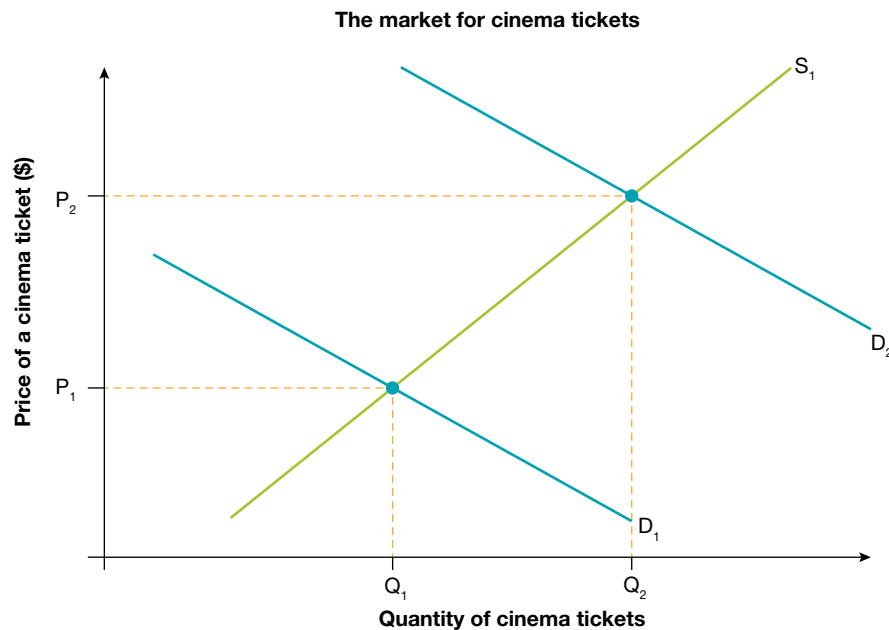
- At a particular point in time, the quantity of resources available for national production is:
 - fixed.
 - infinite.
 - sufficient to meet the wants of society.
 - mostly made available free of charge.
- The problem of scarcity relates to:
 - having limited quantities of resources available and unlimited wants and needs.
 - having limited needs and wants and unlimited resources.
 - producing sufficient goods and services free of charge for users.
 - the need for further exploration for natural resources.
- You are considering three possible ways of using two hours of leisure time:
 - going surfing, which you value at \$12
 - watching a movie, which you value at \$2
 - minding the neighbour's children, which is valued at \$20.You decide to mind the neighbour's children. The opportunity cost is therefore:
 - \$2.
 - \$12.
 - \$14.
 - \$20.

4. Which of the following statements is most correct when all of a nation's resources are fully and most efficiently employed?
- A. Scarcity no longer exists.
 - B. It is generally possible to quickly raise GDP and increase material living standards or welfare.
 - C. It is generally not possible to increase the total value of production in the short term simply by reallocating resources.
 - D. The economy is not necessarily at its productive capacity.
5. In competitive market economies, businesses wish to sell their products at high prices, while consumers wish to purchase goods at low prices. This conflict of interest is generally:
- A. solved by governments imposing regulations.
 - B. solved by reaching a compromise price through the competitive operation of market forces.
 - C. left unresolved.
 - D. solved by businesses indulging in collusive pricing and by government rationing.
6. In competitive market economies, the level of relative profitability of alternative areas of production dictates how best to allocate resources. In this context, profit best represents:
- A. the final selling price of each item in the market.
 - B. the total cost of inputs or resources purchased.
 - C. the final selling price plus capital efficiency.
 - D. the final selling price minus the cost of price of inputs used.
7. In Australia's competitive market capitalist economy, which statement is most correct?
- A. Most of the means of production are privately owned.
 - B. Private ownership and wealth inequality do not create income inequality.
 - C. There are very few monopolies or oligopolies, causing competition to be especially strong.
 - D. It is unnecessary for governments to provide any capital equipment or collective services for the community.
8. If a competitive market existed for vegetables, the price may fall as a result of:
- A. a poor growing season adversely affecting producers.
 - B. the development and use of new higher yielding types of seed.
 - C. a switch by consumers from meat to a vegetarian diet.
 - D. lower labour productivity by vegetable growers.
9. Concerning purely competitive market capitalist economies, which statement is generally incorrect?
- A. The value of incomes paid to individuals depends upon the quantity and quality of productive resources supplied.
 - B. The market or price system will value the economic contribution made by each individual and use this to determine relative income levels.
 - C. Relative prices for all goods and services will be negotiated by the forces of demand and supply.
 - D. Equity in income distribution would be assured by government transfer payments and progressive taxes.
10. In an economy, the price system or market mechanism operates most freely in decision making when:
- A. there are no government regulations, collusive practices between firms or other restrictions on the degree of market competition.
 - B. there is no product differentiation.
 - C. resources are very mobile and can be quickly and easily reallocated between uses in response to price signals.
 - D. all of the above.

11. Concerning restrictive trade practices, which of the following statements is false?
- A. They are generally illegal in Australia.
 - B. They generally aim to decrease market competition.
 - C. They increase the allocative efficiency of the price system in deciding how resources should be best used.
 - D. They often lead to higher prices and profits among the firms involved.
12. In Australia, the government modifies the allocation of resources that otherwise would occur in a market economy to help correct market failures. Which of the following policies could actually operate to reallocate resources?
- i. Spending by government departments in providing public goods including community services and social infrastructure
 - ii. Legislation that limits the production or consumption of various goods and services and forces the consumption of others
 - iii. A system where different indirect tax rates apply on different goods and services
 - iv. The fixing of minimum wages
 - v. The payment of subsidies and the provision of tax concessions
- A. Answers (ii) and (iii) only
 - B. Answers (ii) and (iv) only
 - C. Answers (i), (ii), (iii) and (v) only
 - D. All of the possible policies listed above
13. Butter and margarine are regarded by many consumers as very close substitutes. Given this, a rise in the price of butter in a free or competitive market is likely to result in:
- A. an increase in the demand for margarine.
 - B. a decrease in the supply of margarine.
 - C. a fall in the price of margarine.
 - D. no change in the demand or price of margarine since the two markets are unrelated.
14. Which of the following would not tend to result in a rise in the supply of yoyos at a given price in a competitive market?
- A. A drop in wages paid to workers in yoyo plants
 - B. A fall in the price of plastics used to make yoyos
 - C. A cut in bank interest rates charged on loans to yoyo businesses
 - D. A successful TV advertising campaign
15. Products A and B are complementary goods in a competitive market. Which of the following is unlikely, given a rise in the demand for product A at a given price?
- A. The demand for B at a given price will rise.
 - B. The demand for B at a given price will fall.
 - C. There will be an expansion in the supply of A.
 - D. There will be an expansion in the supply of B.
16. Assume that the demand for Coke is price inelastic. Which statement is correct?
- A. The demand for Coke contracts by a larger proportion than the rise in price.
 - B. The demand for Coke is such that it would pay retailers to collectively lift prices a little in order to maximise total current revenue.
 - C. It would pay sellers of Coke to offer large discounts on their standard prices in order to maximise total current revenue.
 - D. The percentage rise in prices charged for Coke would exactly equal the percentage fall in the quantity purchased.

17. Faced with a rise in prices, the supply of fresh nectarines may be inelastic in the short term because:
- time is needed to grow extra trees.
 - the fruit has a limited storage life.
 - the resources of fruit growers are immobile.
 - all of the above are possible.
18. Which of the following products is most likely to face an elastic demand?
- Electricity
 - Water
 - Pepper
 - Margarine
19. Which of the following would be most likely to cause an increase in the demand for surfboards at a given price?
- A fall in the price of surfboards
 - An expectation that prices will fall for next year
 - A fall in the cost of foam used to make the boards
 - A rise in the income of consumers of surfboards
20. Assume that if Coke and Pepsi are very close soft-drink substitutes, then an increase in the price of Coke would most likely tend to cause:
- an increase in the demand for Pepsi.
 - a contraction in the demand for Coke.
 - no effect on the demand for Pepsi.
 - Both A and B are correct.
21. Examine the diagram in figure 1.32 showing the market for cinema tickets.

FIGURE 1.32 Changes in the market for cinema tickets



The shift in the whole demand line for cinema tickets from D_1 to D_2 would probably not be caused by:

- a rise in the ticket price.
- a rise in the price of iTunes movies.
- a successful advertising campaign by cinemas.
- the cinema release of a popular blockbuster movie.

22. In a competitive or free market for wool, equilibrium would exist when:
- A. the market is cleared of any shortage or surplus wool.
 - B. the quantity of wool supplied equals the quantity demanded.
 - C. there is no tendency for the market price of wool to rise or fall.
 - D. all of the above conditions are achieved.
23. The Australian government sets a floor price on labour by imposing minimum wages. If this minimum wage is fixed above the equilibrium that would otherwise occur in a competitive or deregulated labour market:
- A. there will be equilibrium in the market.
 - B. there will be a shortage of labour.
 - C. there will be unemployment, perhaps leading to poverty.
 - D. all workers will be better off financially.
24. Australia has a floating exchange rate where demand and supply in the foreign exchange market decide the price of the Australian dollar. Between 2013–16 and during 2017–19, the Australian dollar's exchange rate or price generally fell or depreciated overall against the US dollar by around 30 per cent. In terms of market theory, this could be caused by:
- A. an increase in the supply of Australian dollars.
 - B. a decrease in the demand for the Australian dollar.
 - C. a relatively lower value for the US dollar.
 - D. both A and B above.
25. Currently, the demand for petrol is described as:
- A. relatively elastic.
 - B. relatively inelastic.
 - C. unit elasticity.
 - D. neither elastic nor inelastic, since this cannot be determined.
26. Overall, between 2014 and early 2019, the market price of crude oil fell from over US\$100 per barrel to under US\$65 per barrel. Assuming rational decisions concerning the allocation of resources follow this signal from the market, which of the following should not follow?
- A. Fewer resources should go into oil exploration and research into alternative fuels and more efficient technologies.
 - B. Fewer resources should go into the production of large 4WD vehicles and spending on freeways for use by private vehicles.
 - C. Fewer resources should be allocated to public transport, especially trains and trams, and provision of cycle tracks.
 - D. Fewer resources should go into the production of paper packaging and natural fibres for textiles (e.g. wool) that are not made from oil.
27. Regarding the market or price mechanism, which statement is false?
- A. Relatively lower market prices for a good or service usually indicate underproduction or shortages of the good or service.
 - B. Relatively higher market prices for a good or service usually signal that firms have allocated too few resources towards the particular area of production.
 - C. In general, the market does not efficiently allocate resources if factors such as monopolies and oligopolies restrict the free movement of prices up or down to reflect either shortages or overproduction.
 - D. Changing market conditions of demand or supply may alter the equilibrium price of a particular good or service.

28. Examine the data in table 1.9 below relating to the price of bananas in a purely competitive market.

TABLE 1.9 Schedule relating to conditions in the market for bananas

Price of bananas per kg (A\$)	Demand for bananas (million kg per year)	Supply of bananas (million kg per year)
4.20	500	50
4.40	400	150
4.60	300	250
4.80	200	350
5.00	100	450

Under these conditions, the equilibrium price of bananas per kilogram would be:

- A. between \$4.40 and \$4.50.
 - B. between \$4.60 and \$4.80.
 - C. over \$4.80.
 - D. none of the above.
29. Theoretically, in a competitive market, which of the following would not explain a shift to the right in the location of the whole supply line for goldfish?
- A. An awful disease hit the industry, causing the fish to bloat and float to the surface.
 - B. The 90 per cent tax on goldfish companies was abolished by the treasurer, who is an enthusiastic but secret collector of goldfish.
 - C. Workers employed in the goldfish industry reluctantly accepted a \$100 per week pay cut.
 - D. A special fertility drug was developed by breeders to cause goldfish to have more babies.
30. Which of the following is unlikely to increase the free market price of woollen mini-skirts?
- A. A successful and compelling mini-skirt advertising campaign by tall, thin models.
 - B. Rising consumer confidence and disposable incomes among teenage skirt buyers.
 - C. The implementation of a special report by the government's minister for primary industry (who followed the fashion industry closely), recommending the abolition of all taxes on clothing producers.
 - D. The government paying a cash subsidy to wool growers, designed to encourage higher production levels.
31. When there is a contraction in the demand for soft drinks in a free market, the most convincing explanation of this is:
- A. a rise in the price of soft drinks.
 - B. a general fall in wages among buyers.
 - C. a decline in population or market size.
 - D. the onset of winter.
32. Capital or investment goods can best be described as:
- A. plant and equipment used by producers to help make other goods and services and to improve the efficiency of labour and natural resources.
 - B. money that is available for capital formation.
 - C. the purchase of shares on the share market.
 - D. equipment provided only by the government to help make collective services available to the public.
33. Which of the following Australian industries best approximates a highly competitive market?
- A. Oil
 - B. Banking
 - C. Minerals
 - D. Property

34. Which of the following Australian industries best approximates a monopolistically competitive market?
- A. Clothing
 - B. Electricity
 - C. Air travel
 - D. Beer
35. Which of the following Australian industries best approximates an oligopolistic market?
- A. Wheat
 - B. Groceries
 - C. Labour
 - D. Shares
36. The size of a nation's production possibility frontier will not be affected by:
- A. changes in the unemployment of resources.
 - B. new discoveries of minerals and the use of new technology in production.
 - C. lower rates of skilled immigration.
 - D. climate change.
37. Which of the following statements relating to economic efficiency is least correct?
- A. Efficiency in resource allocation is achieved when opportunity costs are maximised.
 - B. Intertemporal efficiency is achieved when there is an optimal balance between current consumption or the spending of income, versus saving income to finance investment and hence future consumption.
 - C. Allocative efficiency is achieved when resources are used in ways that maximise the general satisfaction of society's wants and general wellbeing.
 - D. Dynamic efficiency occurs when resources are reallocated quickly to increase choice and meet the changing needs of consumers.
38. Technical efficiency would probably not be improved if:
- A. winemakers used new equipment for grape picking.
 - B. government funding of training along with R&D by the CSIRO and other agencies was slowed.
 - C. there was a reduction in water used in rice growing through the use of new drought-resistant strains of seed.
 - D. the rollout of the National Broadband Network (NBN) was accelerated.
39. In Australia's economy, the market or price system involving the operation of demand and supply makes most economic decisions about:
- A. the types and quantities of particular goods and services produced.
 - B. the production methods to be used.
 - C. how the goods and services produced will be divided or distributed.
 - D. all of the above.
40. Which statement about the operation of the price system is least correct in the market for oil?
- A. A fall in the relative price of oil will normally lead to fewer resources being allocated to this product.
 - B. Technological breakthroughs that allow for the viable extraction of oil from shale sands will tend to reduce the relative profitability of oil production, attracting fewer resources and leading to lower average incomes.
 - C. Rises in the relative wages paid to oil workers will tend to attract more labour resources into the industry.
 - D. Lower relative prices paid for oil will tend to reduce the allocation of resources into air travel but increase resources allocated into solar and alternative energy sources.

41. If the price of coffee rises by 10 per cent and the demand for coffee contracts by 5 per cent, the price elasticity of demand would be:
- A. greater than 1.
 - B. less than 1.
 - C. equal to 1.
 - D. cannot be calculated.
42. An excise tax imposed on sales of petrol or tobacco is likely to:
- A. greatly change consumer behaviour and reduce consumption.
 - B. raise considerable government revenue.
 - C. correct market failure and the problems associated with the use of these products.
 - D. have no effect at all on resource allocation.
43. A shift of the whole supply line for childcare to the right of the original line is best described as:
- A. an expansion in supply at a given price.
 - B. a decrease in supply at a given price.
 - C. an increase in the quantity supplied at a given price.
 - D. less favourable supply conditions at a given price.
44. Bananas are often regarded as having a fairly inelastic supply curve. What is the best explanation for this?
- A. They do not store well over a long period of time.
 - B. Their supply is relatively fixed in the short term.
 - C. Growers may have little unused growing capacity available.
 - D. All of the above.
45. Regarding market failure, which statement is least correct?
- A. Failure occurs when resources are allocated to the production of certain types of goods and services that lower the general wellbeing of society.
 - B. The exercise of market power leads to lower prices.
 - C. The existence of asymmetric information can lead to consumers making poor decisions that diminish the degree to which their wants are satisfied.
 - D. Failure can sometimes be reduced by government intervention using excise taxes, subsidies and laws.
46. The greatest positive externality is most likely to result from the production and consumption of which of the following?
- A. Tobacco
 - B. Vaccinations against measles and flu
 - C. Alcohol
 - D. Cars
47. Which of the following is most likely to lead to failure in the market for electricity?
- A. The entry of additional firms into the industry.
 - B. Further government deregulation and the creation of a national electricity grid connecting the states.
 - C. Increased access to the internet through the NBN and the introduction of laws about product disclosure.
 - D. The abolition of the carbon tax.
48. Concerning the features of public and private goods, which of the following is most correct?
- A. Private goods are non-rival in nature.
 - B. Public goods are normally non-excludable.
 - C. Public goods are normally both non-rival and non-excludable.
 - D. Private goods are normally provided through the federal budget.

49. The payment of a government subsidy to private schools due to the existence of external benefits would tend to:
- increase the quantity of education supplied across all possible prices or fees, and cause the profitability for suppliers to increase.
 - cause a glut of education at the original price or level of school fees so the price paid by consumers falls.
 - cause an expansion in the demand for private education.
 - all of the above.
50. Tighter laws restricting the underage consumption of alcohol would tend to:
- lower the demand for alcohol and increase its price and quantity.
 - lower the demand and cause a contraction in the supply of alcohol, along with a decrease in its equilibrium market price and quantity.
 - lower the demand and decrease the supply of alcohol, causing the price and quantity of alcohol to remain unchanged.
 - have no impact on the allocation of resources or on market failure.

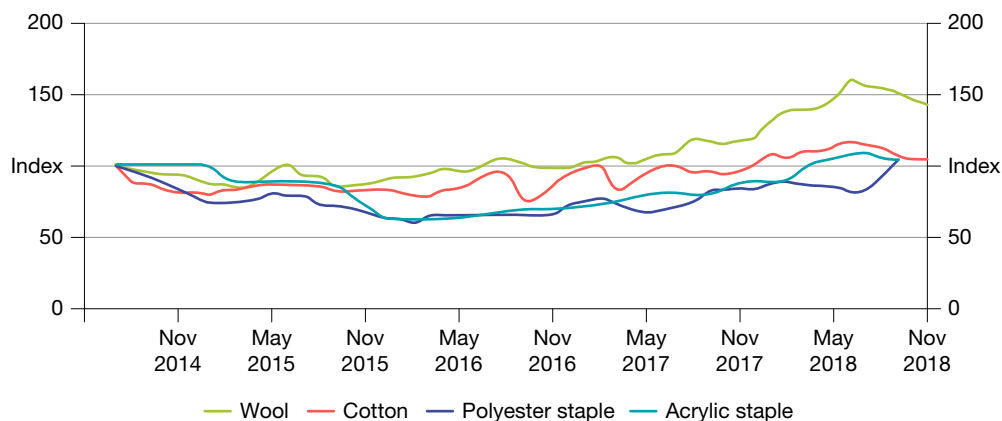
on Resources

 **Digital documents** Multiple choice answer grid (doc-31487)
Multiple choice answers (doc-31488)

1.11 Exercise 2: Extended response questions

- Distinguish between allocative efficiency and dynamic efficiency. **(2 marks)**
- Explain *how* the *price system* (also called the price mechanism) operates to *allocate resources* between competing uses. **(4 marks)**
 - Examine figure 1.33 showing an index that tracks international changes in the relative prices received for selling various fibres used in making textiles and clothes over the years from early 2014 to late 2018.

FIGURE 1.33 Changes in the price indexes for selected fibres used in textile manufacture (base year is 2014 = 100 points)

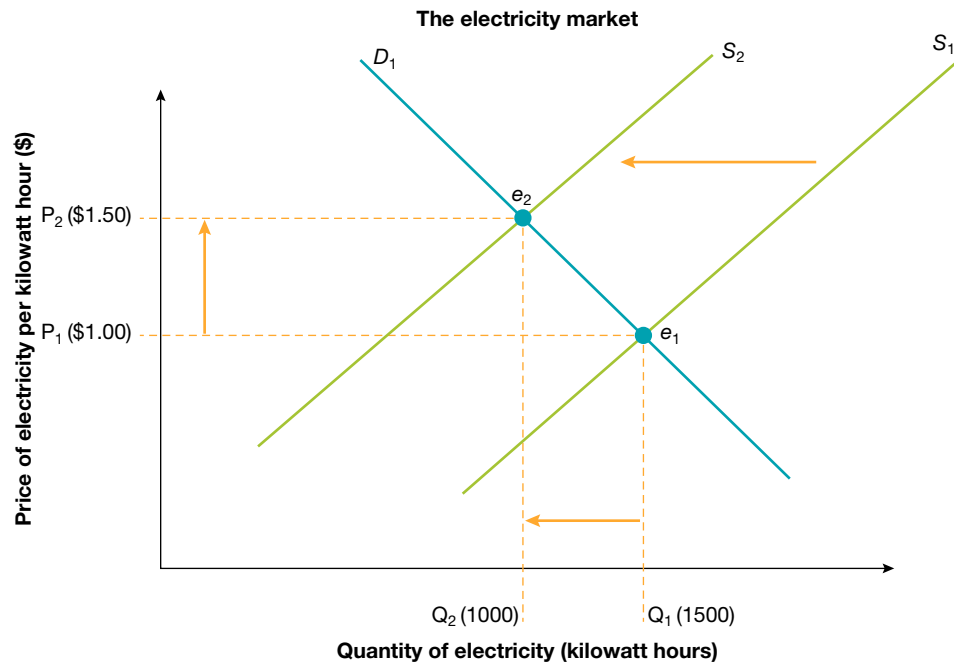


Source: Sourced from the Commonwealth of Australia Department of Agriculture and Water Resources.

What are *relative prices*? Referring to the general trends for particular fibres shown on this graph, explain how you would normally expect changes in the relative prices received by the sellers of these fibres, to alter the way resources would be allocated between alternative uses, in the upcoming years. (2 marks)

3. Electricity prices have risen sharply in Australia over recent years by threefold, partly due to new non-price conditions affecting *supply*. Examine figure 1.34 hypothetically showing changes in Australia's *electricity market* in recent years through to early 2019. (5 marks)

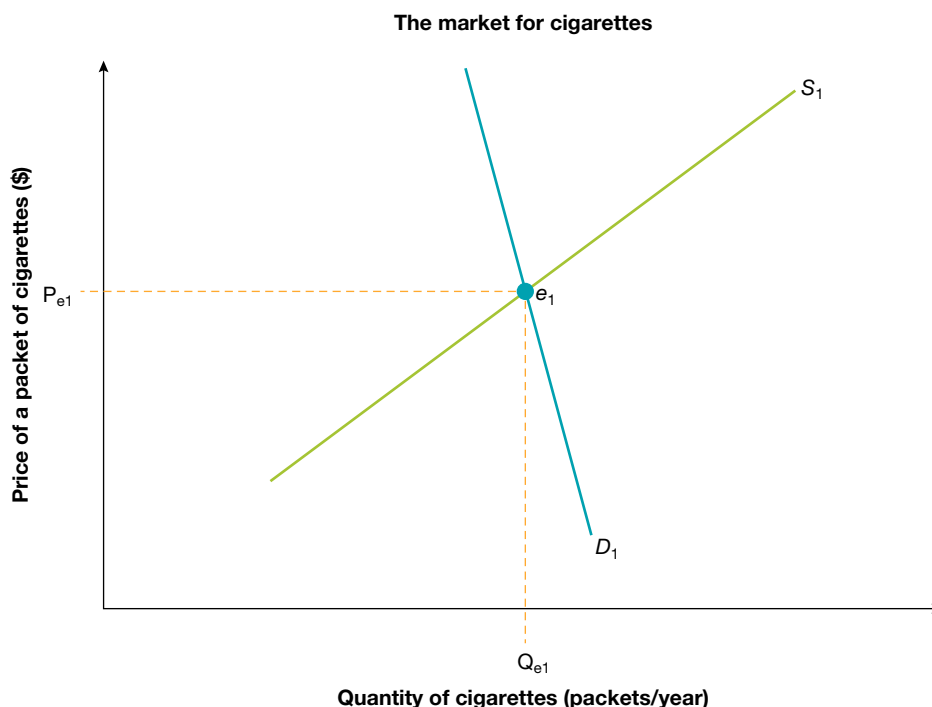
FIGURE 1.34 Changes in Australia's electricity market in recent years



- Referring the above hypothetical diagram, explain what has happened in the *electricity market* over the period to early 2019 suggesting *two* important and likely non-price microeconomic factors that could have caused the changes shown on this diagram. (3 marks)
 - Referring to the above diagram, systematically (step-by-step) explain the *process* whereby there was a shift in the electricity market's *equilibrium* from e_1 to e_2 . (2 marks)
4. There are different *market structures* operating in our economy. Identify and explain *three* key differences between Australia's *wool market* and that for *telecommunications*. (3 marks)
5. 'Because of *market failure*, the Australian government *modifies the allocation of resources* that would otherwise occur if this decision was left solely to the free operation of the price or *market system*.' (5 marks)
- Asymmetric information* exists in some markets. Giving examples, explain *how* this can result in *market failure*, providing *two* important ways whereby the Australian government has attempted to reduce this failure. (3 marks)
 - In what way does the provision of *national defence* as an example of a public good illustrate a market failure involving the *free rider problem*? (2 marks)
6. a. Giving reasons, clearly explain why a free (unregulated) and purely competitive *tobacco market*, would be likely to cause *market failure*. (2 marks)
- b. With this in mind, the Australian government has dramatically increased the excise tax on the *sellers* of cigarettes by 50 per cent over the last few years causing the price to rise. Neatly and fully

complete and label the demand–supply diagram in figure 1.35 to show the situation that develops in the market for cigarettes *before* and *after* the hefty rise in the excise tax levied on *sellers*.

FIGURE 1.35 Changes in the market for cigarettes



Referring to parts of this completed diagram, clearly *explain* how this *higher excise tax* imposed on *sellers* of cigarettes, may help to *alter the allocation of resources* and perhaps reduce market failure. (2 marks)

- c. Giving reasons, describe the *price elasticity of demand (PED)* for cigarettes. Explain why this situation might make the excise tax on tobacco on sellers somewhat ineffective in correcting this market failure. (1 mark)
- d. Select *one* important *case study* of an Australian government policy measure primarily designed to reduce market failure, that has *unintended consequences* leading to government failure. Identify this policy and *discuss* the various impacts of this policy on efficiency in resource allocation and society's general wellbeing. (5 marks)

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1.11 Practice school-assessed coursework

Three SACs are to be completed for VCE Economics Unit 3. SAC 1 is worth 40 per cent of the total assessment for Unit 3. It assesses the skills and knowledge associated with Outcome 1 that is largely covered in topic 1. The SAC should be part of the regular teaching and learning program, and completed mainly in class and within a limited timeframe.

The SAC could involve one or more of the following:

- a folio of applied economics exercises
- an essay
- a report
- structured questions.

Courses and assessments can change, so teachers are urged to carefully check the latest VCAA *assessment guide* and various *bulletins* to ensure that all the assessment requirements are met fully.

A FOLIO OF APPLIED ECONOMICS EXERCISES

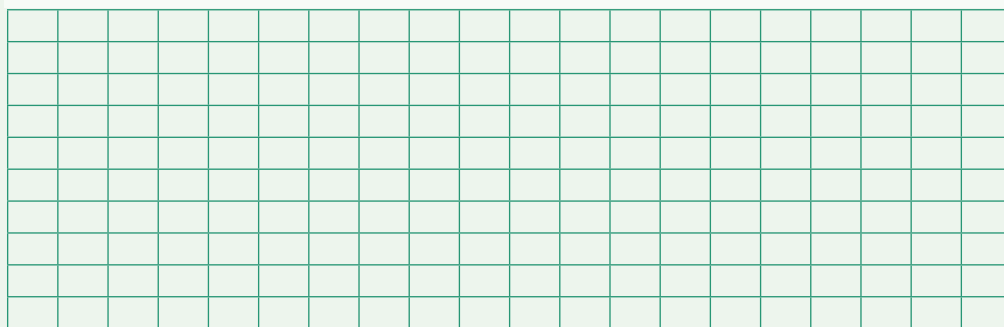
1. Explain what is meant by an efficient allocation of Australia's resources, outlining *two* important effects of increased levels of economic *efficiency*. **(3 marks)**
2. Identify and outline *three* important *differences* between a *perfectly competitive* market structure and a *monopolistic competitive* market structure. **(3 marks)**
3. 'Australia has a *market or price system* that helps to allocate most resources between competing uses. In 2018–19, property prices in capital cities tended to fall, but oil prices started to rise.' Referring to the above examples, clearly explain how the change in *relative prices* in *markets* is likely to alter the allocation of our resources between competing uses. **(6 marks)**
4. Study the following demand and supply schedule for avocados shown in table 1.10.

TABLE 1.10 Schedule showing demand and supply in the avocado market

Price per avocado (\$)	Demand curve 1 — D_1 (quantity of avocados, thousands)	Supply curve 1 — S_1 (quantity of avocados, thousands)	Supply curve 2 — S_2 (quantity of avocados, thousands)
2	200	40	20
4	160	80	40
6	120	120	60
8	80	160	80
10	40	200	100

- (a) Use the graph grid in figure 1.36 below and the hypothetical data about the avocado market to construct a fully labelled and accurate demand and supply diagram. **(4 marks)**

FIGURE 1.36 A demand and supply diagram representing the banana market



- (b) On the diagram you have drawn, identify and label the following:
- The initial or original equilibrium price (P_1) and equilibrium quantity (Q_1) traded for avocados. **(1 mark)**
 - The new equilibrium price (P_2) and quantity traded (Q_2) for avocados. **(1 mark)**
- (c) Describe the change in the supply of avocados (S_1 to S_2), outlining *two* non-price microeconomic factors that might have led to the change in the *supply* of avocados. **(2 marks)**
- (d) Explain the *process* or steps whereby the market for avocados will move from the *initial equilibrium* (E_1) to the *new equilibrium* (E_2) following the change in supply (from S_1 to S_2). **(3 marks)**
- (e) If the supply of avocados was *price inelastic*, what would this mean? Identify and outline *two* possible reasons for this. **(2 marks)**
5. (a) Carefully define what meant by the term *market failure*. **(1 mark)**
- (b) Select *two* situations from those listed below and then identify and outline the most likely type of *market failure* involved. Please ensure you select *two different* types of market failure. **(3 marks)**
- A person with contagious whooping cough pays \$80 to see a doctor and have a vaccination.
 - Toxic waste is emptied down the sink.
 - A mining company extracts and sells brown coal.
 - You get driven to school rather than walking, even though it's only 900 metres away.
 - Your neighbours throw a wild party that rages for days.
 - A director of a tech company, knowing that the company is about to fail, sells her shares before the announcement is made to the public.
- (c) As areas of market failure, *distinguish* between merit type or *public goods* and *common access resources*. **(4 marks)**
- (d) Suggest *three* important *methods* the government could use to help reduce *market failure* involving *negative externalities* associated with *pollution*. **(3 marks)**
- (e) What is *government failure*? **(1 mark)**
- (f) Select *one* contemporary example of government failure and *discuss* the intended and unintended impacts of the Australian government's intervention in the market on efficiency in the allocation of resources. **(5 marks)**
- Subsidies paid to the coal industry
 - Setting minimum wages
 - Introducing the carbon tax on emissions

AN ESSAY

The following may be a guide to an appropriate essay topic (total 40 marks) that covers Economics Unit 3, Outcome 1.

- At the microeconomic level, explain how the operation of the price system, and changes in relative prices in Australia, allocate scarce resources between alternative uses. Illustrate your answer by reference to appropriate current examples of markets. If you wish, use fully labelled diagrams to help your explanation. **(20 marks)**
- What is *market failure*? Outline two important types of market failure and the reasons for them. **(10 marks)**
- Explain how the Australian government has or might seek to overcome this failure using appropriate policies to improve living standards. **(10 marks)**

A WRITTEN REPORT

After conducting appropriate research using the internet and other sources, prepare a written report covering one of the following topics (total 40 marks). *Note:* Your report should contain tables, graphs and diagrams, and footnote the sources of information.

Question 1

- What is meant by an *efficient allocation of resources* and why is this usually achieved in competitive markets through the price system? **(10 marks)**
- Explain why *climate change* may be described as the biggest market failure ever, noting the main reasons for this failure. **(10 marks)**

- c. Outline how the Australian government has used various policies designed to reduce this example of market failure and improve the allocation of resources that would otherwise occur. **(10 marks)**
- d. Evaluate the success of government policy to reduce climate externalities. **(10 marks)**

Question 2

Select a *commodity market* for your investigation. For this chosen market, complete the following research questions for your report.

- a. *Introduction to your market:* Describe the likely type of market structure and the key features of your chosen commodity market. **(5 marks)**
- b. Commodity buyers:
 - (i) Who are the main buyers in this market?
 - (ii) Is the demand for this commodity likely to be price elastic or inelastic? Why?
 - (iii) What are the microeconomic demand conditions affecting the quantity buyers are prepared to purchase at a given price, thereby affecting the demand line for this commodity? **(10 marks)**
- c. Commodity sellers:
 - (i) Who are the main sellers in this market?
 - (ii) Is the supply of this commodity likely to be price elastic or inelastic? Why?
 - (iii) What are the microeconomic supply conditions affecting the quantity sellers are prepared to make available at a given price, thereby shifting the supply line for this commodity? **(10 marks)**
- d. The effects of changes in the commodity price:
 - (i) Use the **ABARES**, **YQ Matric graphs** or **RBA Statistics** weblinks in the Resources tab to research a graph showing the changes in the level of the market price over the last 10 years, five years or the past year in a commodity of your choice. Describe these changes and trends. **(5 marks)**
 - (ii) How have recent changes in the conditions influencing the decisions of both buyers and sellers affected the market price of your commodity? With the help of a hypothetical, fully labelled D–S diagram, explain the reasons for the change in recent market prices. **(5 marks)**
 - (iii) Explain how the recent trend in relative market prices is likely to have affected how resources are allocated by their owners between alternative uses. **(5 marks)**



Resources



Weblinks ABARES

YQ Matric graphs

RBA Statistics

2 Economic activity and Australia's goals

2.1 Overview

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

2.1.1 Introduction

Pick up almost any newspaper or go online, and you will find it littered with headlines about the prevailing economic conditions in Australia and abroad, and the multitude of drivers affecting our circumstances. Topic 2 focuses our attention on the three key domestic macroeconomic goals that are pursued by the Australian government — strong and sustainable rates of economic growth, low inflation and full employment. Indeed, achieving these goals helps to create economic conditions optimal for people to enjoy better material and non-material wellbeing. Apart from understanding the nature of these important goals and how they are measured, we will also investigate the main aggregate demand and supply factors affecting the achievement of these goals over the last two years and see the connections with changes in the level of economic activity.

FIGURE 2.1 What do you think of when you think of the term *living standards*? For some, having a good living standard might mean living on a tropical island such as this one. For others, it might mean travelling the world. And for some, it might just mean not going hungry.



2.1.2 What you will learn

KEY KNOWLEDGE

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

The nature and purpose of economic activity

- the difference between material and non-material living standards
- factors that may influence living standards including access to goods and services, environmental quality, physical and mental health, life expectancy, crime rates and literacy rates
- the circular flow model of income including the role of households, businesses, government, financial institutions and the external sector in an open contemporary macroeconomy
- the nature and causes of the business cycle
- the meaning and importance of aggregate demand and the factors that may influence the level of aggregate demand in the economy: changes in the general level of prices, disposable income, interest rates, consumer confidence, business confidence, the exchange rate and rates of economic growth overseas
- the aggregate demand curve
- the meaning and importance of aggregate supply and the factors that may influence the level of aggregate supply in the economy: changes in the general level of prices, quantity and quality of the factors of production, cost of production, technological change, productivity growth, exchange rates and climatic conditions
- the aggregate supply curve
- the effects of changes in aggregate demand and aggregate supply on the level of economic growth, employment and price levels.

The Australian government's domestic macroeconomic goals

- the meaning of the goal of low inflation (price stability)
- measurement of the inflation rate using the Consumer Price Index (CPI) including the difference between the headline and underlying (core) rate of inflation
- causes of inflation including demand and cost inflation
- consequences of a high inflation rate: erosion of purchasing power, redistributive effects, resource misallocation, savings and investment and international competitiveness
- the meaning of the goal of strong and sustainable economic growth
- measurement of the rate of economic growth using real Gross Domestic Product (GDP)
- the reasons for pursuing strong and sustainable economic growth including lowering of the unemployment rate, growth in real income and increased ability of government to provide essential services
- the meaning of the goal of full employment and classifications within the labour force: employed, unemployed, hidden unemployment, disguised or under-employed
- measurement of the labour force including the participation rate, the unemployment rate and the labour force underutilisation rate
- types and causes of unemployment: cyclical, structural, frictional, seasonal and hard-core unemployment
- the consequences of unemployment including loss of GDP, loss of tax revenue, reductions in living standards and greater income inequality
- aggregate demand and aggregate supply factors that have influenced inflation, economic growth, the unemployment rate and living standards in the past two years.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- calculate relevant economic indicators using real or hypothetical data
- explain trends, patterns, similarities and differences in economic data and other information
- apply economic concepts and theories to explain the nature and importance of the Australian Government's domestic macroeconomic goals
- analyse economic relationships through the interpretation of data, graphical trends, patterns and other information.

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.

2.2 The difference between material and non-material living standards and factors affecting each

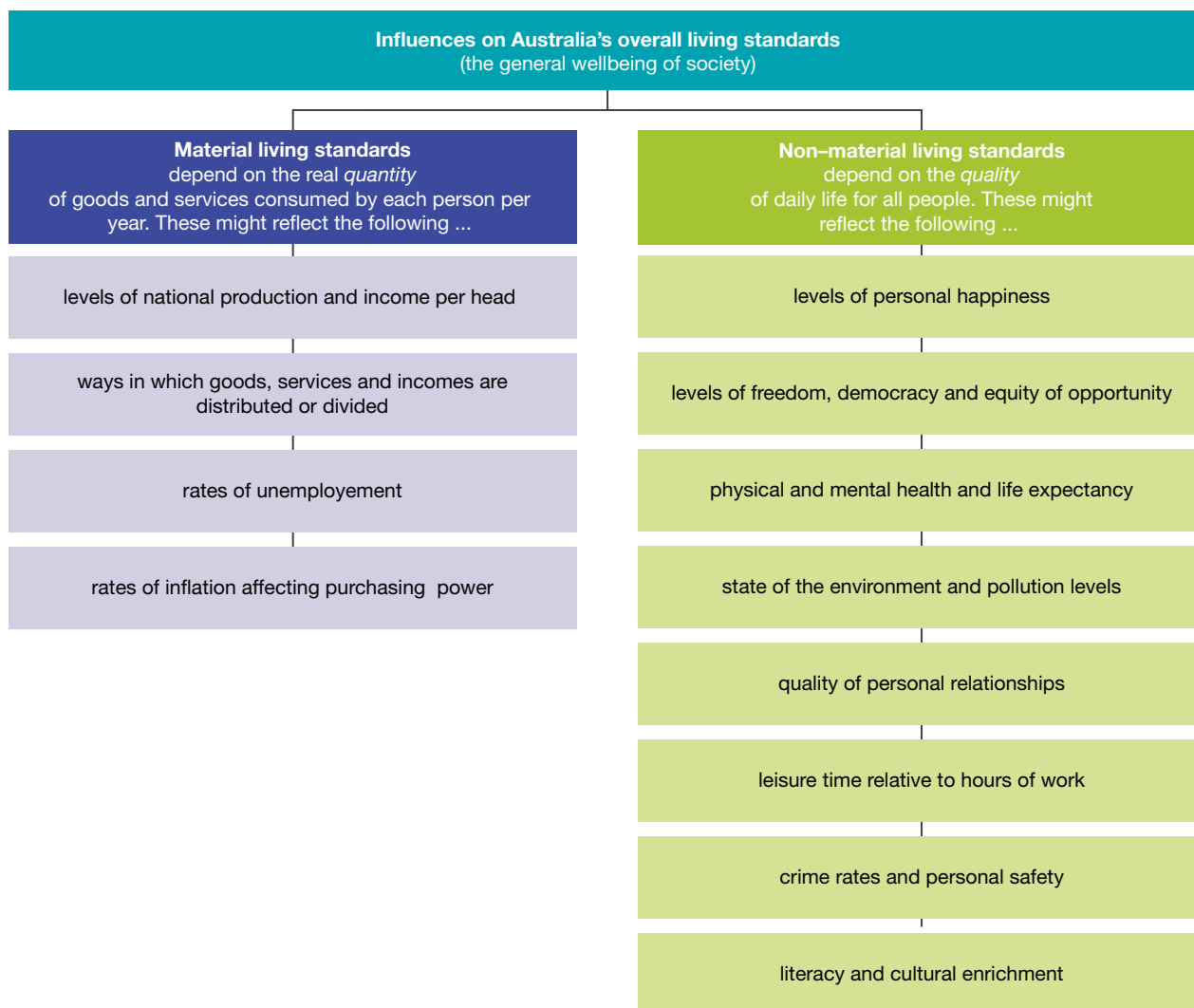
KEY CONCEPT

- The difference between material and non-material living standards

Many people seek an improvement in their overall living standards or general level of wellbeing.

There are *two* main elements that affect our general or overall **living standards**:

- the level of *material* living standards
- the level of *non-material* living standards (i.e. wellbeing).



2.2.1 Material living standards and the factors affecting them

Material living standards involve the level of economic wellbeing of individuals and the ‘quantity’ of physical goods and services available for each person to consume. Being able to access or consume more goods and services each year is generally seen as beneficial. This is because our material needs and wants can be satisfied to a greater degree. For example, when material living standards rise, there is improved access to goods and services such as food, better housing, medical care, education, travel and holidays, clothes and entertainment.



There are a number of influences on the level of *material living standards* (the annual quantity of goods and services that can be consumed per person) that must be considered:

- *Growing national production and income per person.* So that each person can consume more goods and services, emphasis is usually placed on growing the size of the economy by lifting the level of national production between one year and the next. This is often measured by the annual rise in *gross domestic product* (GDP) per capita. In turn, increased production normally leads to higher levels of national income and consumption per head. However, for this to happen, national production and incomes must grow at a faster rate than population for people will enjoy higher material living standards. In turn, increasing GDP and incomes per capita depends on factors such as improved efficiency in the use of resources, and access to increased quantities of natural, labour and capital resources that are inputs needed for production.
- *Distribution of goods, services and incomes.* Apart from growing the nation's per capita production and incomes, material living standards are strongly affected by the way our goods, services and incomes are shared or distributed between people. If the pattern of distribution is very *uneven*, a small minority of people (say, the richest 20 per cent of the population) may consume the majority of goods, services and incomes (say, 60 per cent), causing most people to live in poverty with low material living standards. To ensure that the benefits of having a bigger economy are shared or spread around so most people can enjoy better material wellbeing, most governments use various policies (e.g. progressive taxes, welfare benefits and subsidised services) to help reduce the level of inequality.
- *General rise in prices paid for goods and services or the inflation rate.* The rate of inflation (the general rise in the prices paid for a basket of goods and services that consumers purchase) will also affect our level of material living standards. When prices rise quickly, we often cannot afford to consume as many goods and services. Our *purchasing power* is reduced, lowering our economic wellbeing.
- *Jobless or unemployment rate.* When people lose their jobs, they generally have much lower incomes and less purchasing power. This too lessens their level of consumption and access to goods and services, on average reducing society's material living standards.

2.2.2 Non-material living standards and the factors affecting them

Non-material living standards refer to ‘quality’ aspects of a person's daily life. In some ways, non-material living standards are hard to define because they are subjective or depend upon personal values. Even so, for many people, having higher non-material living standards may involve some of the following:

- happiness
- physical and mental health and the absence of stress
- positive relationships with others and family cohesion
- the absence of persecution, corruption, war, crime and violence

- a fair, just, tolerant, compassionate and moral society
- social, economic and political freedom
- a healthy natural environment both now and into the future
- a lack of urban congestion and overcrowding
- a long life expectancy
- equality of opportunity and the absence of discrimination
- considerable leisure time as opposed to hours of work
- rich cultural experiences
- high literacy rates.



2.2.3 Relationships between material and non-material living standards

Two types of relationships exist between material and non-material living standards:

- *Conflicting relationships* occur where there is a trade-off, and progress in one area of wellbeing undermines the other.
- *Compatible relationships* exist where progress in one area of wellbeing helps to promote the other area.

Conflicting relationships between material and non-material living standards

Our material and non-material living standards cannot be looked at in isolation, since one *interacts* with and impacts on the other. Consider what happens to material living standards when Australia's levels of national production and income per head are rising between one year and the next (perhaps measured by the annual rise in GDP per person or per capita). This may impact negatively on the ability of future generations to lift their output and *material* living standards because we have used up too many resources. It may also adversely affect our long-term *non-material* living standards since there are various types of trade-offs or costs of growing the size of Australia's economy:

- *Environmental trade-off.* Our materialism and greed for natural resources to make even more goods and services — which have raised material wellbeing to levels never before seen in human history — have also had grave consequences for the environment. Think of the serious pollution of rivers, land and oceans; climate change, greenhouse gases and



extreme weather events; rising sea levels and the destruction of island communities and our coastal cities; mass migrations, tensions and war between countries over ownership of natural resources; and the almost daily reports of toxic residues and chemicals in the air we breathe and the food we eat.

- *Health and social trade-off.* As our material living standards have grown, aspects of non-material wellbeing have suffered. Leisure time has been eroded for many as work hours have increased. Family stresses have been aggravated by tension and less time to devote to home life. Rising incomes, a sedentary work style, the proliferation of digital devices and easy access to a wide variety of fast foods have contributed to serious obesity to such a degree that the average life expectancy of today's children may, for the first time, be lower than that of their parents.
- *Material trade-off.* If the government were to introduce policies specifically designed to promote non-material living standards — perhaps by tightening government environmental controls (such as introducing a carbon tax or a carbon emissions trading scheme to make pollution costly and less attractive), or by limiting working hours to raise leisure time and increase available family time — potentially these measures could undermine national production and incomes, and hence lower our material living standards.

Compatible relationships between material and non-material living standards

While there is often a conflicting relationship, material and non-material living standards can also enjoy a degree of *compatibility* where promoting material living standards and higher incomes, perhaps by growing the size of the economy, can also increase non-material living standards in various ways:

- *Cultural enrichment* — Higher incomes can allow for more international travel and cultural enrichment.
- *Longer life expectancy* — Higher incomes can be used to extend life expectancy and reduce daily suffering from pain and curable ailments.
- *Possibility of reduced environmental damage* — Higher incomes can be directed to combating environmental damage and reducing pollution.
- *More leisure time* — Higher incomes enable individuals to reduce their working hours and stress, and increase their leisure time.

In addition, government policies (such as a carbon tax or an emissions trading scheme) could be used to reduce the production of those types of goods involving high carbon emissions that add to pollution, while simultaneously, encouraging the growth of new green industries (such as renewable energy), jobs and incomes. This way, material living standards can still advance without sacrificing the non-material living standards for future generations.

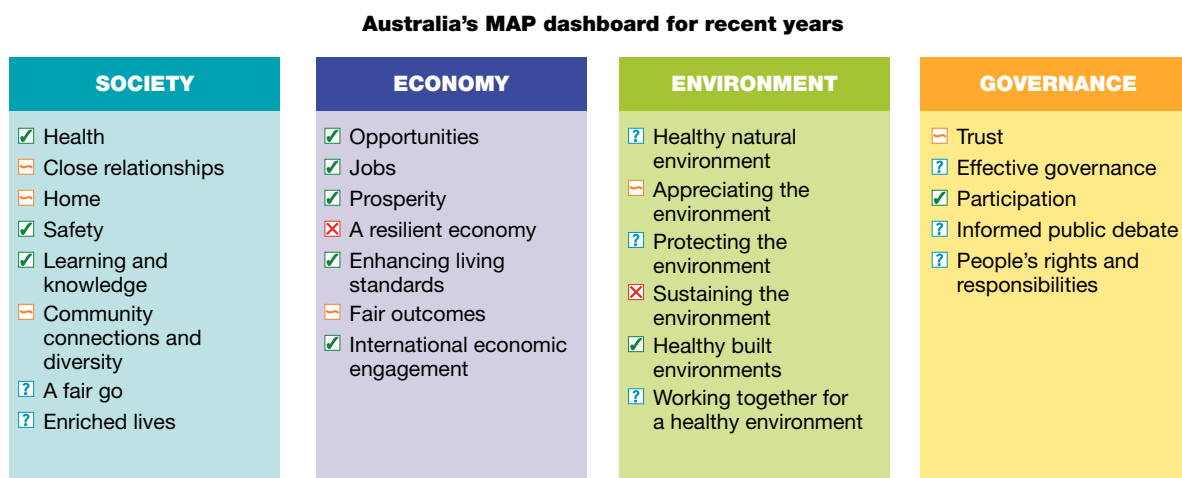
2.2.4 Indicators of Australian living standards

As we can now appreciate, the standard of living is a broad concept involving society's general wellbeing. One attempt to determine whether life is progressing or regressing is called, **Measuring Australia's Progress (MAP)**. This is prepared by the Australian Bureau of Statistics (ABS) and involves a large range of indicators, both material and non-material, broken into *four* main categories or domains:

- economy
- society
- governance
- environment.

MAP is designed to answer the question, 'Is life in Australia getting better?' The latest MAP dashboard results are summarised in figure 2.2.

FIGURE 2.2 MAP as one way to understand whether life in Australia is getting better



What do these symbols mean?

- ☒ The headline progress indicator for this theme has shown **progress**.
- ☐ The headline progress indicator for this theme has shown **regress**.
- ☐ The headline progress indicator for this theme has **not changed greatly**.
- ☐ There is a **data gap** for this theme as there is currently no headline progress indicator.

Source: ABS 1370.0: Measures of Australia's Progress, updated 2016.

Notice that for the Economy category (which is especially relevant for material living standards), there has been progress in *opportunities*, *jobs*, *prosperity* and *international economic engagement*, but regression in the area of *a resilient economy*. In addition, there was little change in the indicators for *fair outcomes* (equitable income distribution). You can follow the [Measuring Australia's Progress \(MAP\)](#) weblink in the Resources tab to see a summary brochure, video and host of graphical data reflecting aspects of Australia's overall standard of living.

on Resources

-  **Weblinks** Measuring Australia's Progress (MAP)
Standard of living

2.2 ACTIVITIES

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Check your understanding

1. What do we mean when we refer to the *standard of living*?
2. What is the difference between material and non-material living standards?
3. How are material living standards commonly measured?
4. How are non-material living standards commonly indicated?

Applied economic exercises

1. One approach to measuring whether life is getting better or worse in Australia is called Measuring Australia's Progress (MAP).

- (a) Identify and outline the four main areas or categories of measure involved in MAP. **(2 marks)**
- (b) Use the **MAP** weblink in the Resources tab to research this measure. List the areas of wellbeing in recent times that are:
- progressing
 - regressing.
- (2 marks)**
2. Apart from judging a nation's material living standards by looking at the level of real GDP or income per head, identify and explain the other factors that need to be considered before drawing conclusions. **(4 marks)**
3. Giving examples, explain the various *types of relationships* that can exist between material and non-material living standards? **(4 marks)**
4. Each day we make decisions about what to buy and produce that impact well or poorly on our living standards, or on those of others. For any *three* of the following hypothetical events, analyse the likely impacts on living standards.
- You get a new part-time weekend job at Subway.
 - You buy a new surfboard from Rip Curl and drive to Bells Beach for a test run.
 - A new uranium mine is given government approval to operate in the Northern Territory.
 - In June 2019 the Fair Work Commission increased in the adult minimum wage to \$740.80 per week.
 - Your parents install solar power panels on the roof, encouraged by a government subsidy or payment to offset part of the cost.
 - The growth rate in Australia's production or GDP has slowed due to the international downturn or recession.
 - Australia's inflation rate (the general rate of rise in prices for goods and services) slowed from 4 to only 2 per cent per year.
 - Your mother's working hours per week were increased from 10 to 40.
- (6 marks)**
5. Select a newspaper article that you believe reports an event that impacts positively or negatively on your living standards, or those of the wider society. After highlighting the key ideas, make annotated notes that explain the likely effects, stating whether they are good or bad. **(4 marks)**

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2.3 BACKGROUND KNOWLEDGE Nature, effects and measurement of economic activity

BACKGROUND INFORMATION

- The nature, effects and measurement of economic activity influences material and non-material living standards.

One of the most important influences on Australian *material* living standards (i.e. the annual *quantity* of goods and services consumed per person) and *non-material* living standards (i.e. the *quality* of a person's daily life), is the pace or **level of economic activity**.

2.3.1 The nature of economic activity

Economic activity refers to the actions of individuals, firms and governments that help to generate the production of goods and services, employment and incomes. It is mainly the process of converting scarce resources into goods and services. Its main purpose is to help satisfy society's seemingly endless needs and wants and thereby improve living standards.

From a *microeconomic* viewpoint, the level of economic activity in each individual industry is determined largely by changes in relative prices and profits in specific markets, both here in Australia and overseas. We covered some of these *microeconomic* aspects in topic 1. However, we now need to take a much wider or *macroeconomic* view and study the general factors affecting the overall or national level of domestic (within Australia) economic activity that results from the combined outcome of all the production and consumption decisions that occur 24 hours a day in thousands of markets around Australia.

Because the levels of national production (often measured by the rate of change in gross domestic product or GDP), income and employment change from one year to the next, Australia's level of economic activity is said to be unstable. Economists use the concept of the *level of economic activity* to describe the general *pace* or *speed* at which productive activity is occurring nationally.

2.3.2 The effects of economic activity on living standards

As mentioned at the outset, Australia's economic activity has far-reaching impacts on both our material and non-material living standards, now and into the future.

The level of economic activity directly affects current material living standards

The level of economic activity directly affects *current* material living standards in at least *three* important ways.

1. It affects the quantity and quality of goods and services produced and available to the population in order to help satisfy its needs and wants.
2. It influences employment opportunities, the number of jobs and the unemployment rate.
3. It determines our average incomes, prices, purchasing power and consumption levels per person.

Indeed, later we will see that the federal government uses policies to influence economic activity in order to actively pursue its *core domestic aims* including the *goal of a strong and sustainable rate of economic growth*, the *goal of full employment* and the *goal of low inflation*. Achieving these three goals is especially important for improving society's material living standards.

The level of economic activity directly affects future material and non-material living standards

The current level of economic activity also affects levels of non-material living standards now and in the *future*. Although higher levels of economic activity can allow our current generation to enjoy better material prosperity, increasingly, there is the worrying realisation that extra production has been extracted by using up common goods and depleting scarce non-renewable natural resources such as minerals, water, clean air, forests and oceans. This deprives their access by future generations, limiting not just their material wellbeing but also non-material living standards. We have already seen how negative externalities like climate change, urban congestion, reduced leisure time and family tensions can result from our economic activities. These matters raise the question of *ecological sustainability*: what types and levels of economic activity should we pursue now for sustainable prosperity, wellbeing and living standards in the future?



Resources



Weblink Sustainability easily explained

2.3.3 Measuring the level of economic activity

Naturally, economists are interested in regularly measuring changes in Australia's economic activity. This helps us to assess how the economy is performing. However, accurately measuring a nation's economic activity is a huge, difficult and somewhat inaccurate process. How do we add up the total value of all of Australia's goods and services produced during a year?

Measuring gross domestic product

When **gross domestic product (GDP)** is measured at *current prices*, it represents the total market value (\$) of finished goods and services that have been produced by a country over a period of time. However, the prices paid for goods and services change between one year and the next. This affects the market or current value of national production and makes it inaccurate to compare one year's production with another where the prices paid were different. Hence, the most common measure is one that statistically removes the effect of rising or falling prices. This is called *real GDP* or *chain volume GDP*. The Australian Bureau of Statistics (ABS) measures GDP either annually or on a quarterly basis (at three-monthly intervals). While this is a fairly good estimate of the value of national output, it is worth noting that chain volume GDP is inaccurate for *three* main reasons:



1. *Excluded production.* Chain volume GDP does not include the value of all goods and services produced. It ignores **non-market activity** such as occurs in the cash and black-market economies, among honorary and unpaid volunteers, and from goods and services produced by family members within individual households (gardening, tutoring, transportation, washing and ironing, cooking meals, DIY house repairs and maintenance, caring for others, and family counselling). One reason for exclusion is that these things are too difficult to calculate accurately. Some estimates suggest that the actual value of non-market production may amount to a staggering 10–20 per cent of current GDP or economic activity! If true, this means that GDP seriously *underestimates* national production levels.
2. *Guesstimates and imputed values.* The value of some items included in chain volume GDP (for instance, the net rental value of owner occupied dwellings, along with the value of some government-produced goods and services, and farm output consumed on the farm) must be *imputed* or *guesstimated*. This clearly involves uncertain levels of statistical error.
3. *Adjustments made to remove the effects of price changes.* As already mentioned, since the prices paid for the goods and services that have been produced and included in GDP usually rise and sometimes fall over a period of time, the value of GDP also needs to be adjusted to compensate for this using a special chain price index. This index tries to statistically remove the exaggeration to the value of GDP caused by generally rising prices, or the underestimation of GDP statistics caused by generally falling prices. However, using the chain price index to statistically remove the effects of price changes is a potentially inaccurate process.

In looking at how GDP is measured, we have been using the so-called production approach — by summing up the nation's total annual *value added* at each stage of output by all the Australian producers of goods and services. However, there are also *two* other ways of estimating the value of GDP:

- the *spending approach* — by summing up the total value of spending on Australian-made goods and services
- the *incomes approach* — by summing up the total value of all incomes generated from the production of goods and services.

Some other aspects of indicators associated with economic activity

In addition to GDP, there are many other indicators of changing economic activity and performance, each with certain characteristics:

- *Lagging indicators of economic activity.* **Lagging indicators** of economic activity tell the reader only at what level activity was occurring some time ago. These statistics do not tell us what the economy is doing right now. GDP falls into this lagging indicator category, since by the time quarterly production statistics are collected by the ABS, processed and released, typically three months or so have elapsed. Other lagging indicators of changing levels of economic activity might include the unemployment rate and the inflation rate (the general rise in the prices paid for a basket of goods and services).
- *Coincident indicators of economic activity.* Coincident indicators move very closely with actual changes in the level of economic activity. They are published regularly at shorter intervals and thus more or less tell us what is happening right now.
- *Leading indicators of economic activity.* **Leading indicators** seek to predict where the economy may be heading in the near future. While not completely reliable, they often forecast a change in activity before it actually occurs. Indicators in this category could include the new housing approvals and monthly indexes of consumer and business confidence or sentiment.

Looking for patterns in indicators

When examining statistical indicators, economists are on the lookout for patterns in the data. These could involve:

- *long-term* or general *trends* over perhaps 10 or 20 years
- short- to medium-term cycles, perhaps over 1–3 years
- *seasonal patterns* that occur at the same time each year.

on Resources



Weblinks

Economic growth
Measuring economic performance — growth, inflation and unemployment
Real GDP and the GDP deflator
The Economic Lowdown Video Series
Measuring economic activity
GDP — measuring economic growth
Measuring the economy

2.3 ACTIVITIES

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Check your understanding

1. Define what is meant by the *level of economic activity*.
2. When the level of economic activity speeds up or slows down, identify three important ways this might affect a nation's *material* living standards.
3. Outline the likely effects of economic activity on *non-material* living standards.
4. What is chain volume GDP?
5. Explain how the level of economic activity in an economy is normally measured.
6. Why is chain volume GDP not a totally accurate measure of the level of economic activity?
7. Giving examples, what is the difference between leading and lagging indicators of economic activity?

Applied economic exercises

1. In what ways would a rise in the level of activity be likely to affect Australia's *material* living standards? (2 marks)
2. (a) Australia's level of economic activity is usually measured using chain volume GDP. Define *chain volume gross domestic product*, outlining how it is measured. (3 marks)
- (b) In 2018–19 Australia's chain volume GDP was estimated at \$1 851 516 million. List and explain *three* important reasons why this value of GDP is *not* a totally accurate measure of all the goods and services produced. (3 marks)
- (c) Why is GDP regarded as a lagging indicator of economic activity? (1 mark)

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2.4 The nature and causes of the business cycle showing changes in the level of economic activity

KEY CONCEPT

- the nature and causes of the business cycle

Reading the news headlines, it is clear that Australia's level of economic activity or production (measured by chain volume GDP) is not steady. It moves up and down in a wave-like or *cyclical* pattern. Sometimes the real value of GDP grows faster, while at other times it is slower or actually falls against the level for the previous year. This pattern of activity is called the **business cycle**.

2.4.1 The business cycle diagram showing various levels of economic activity

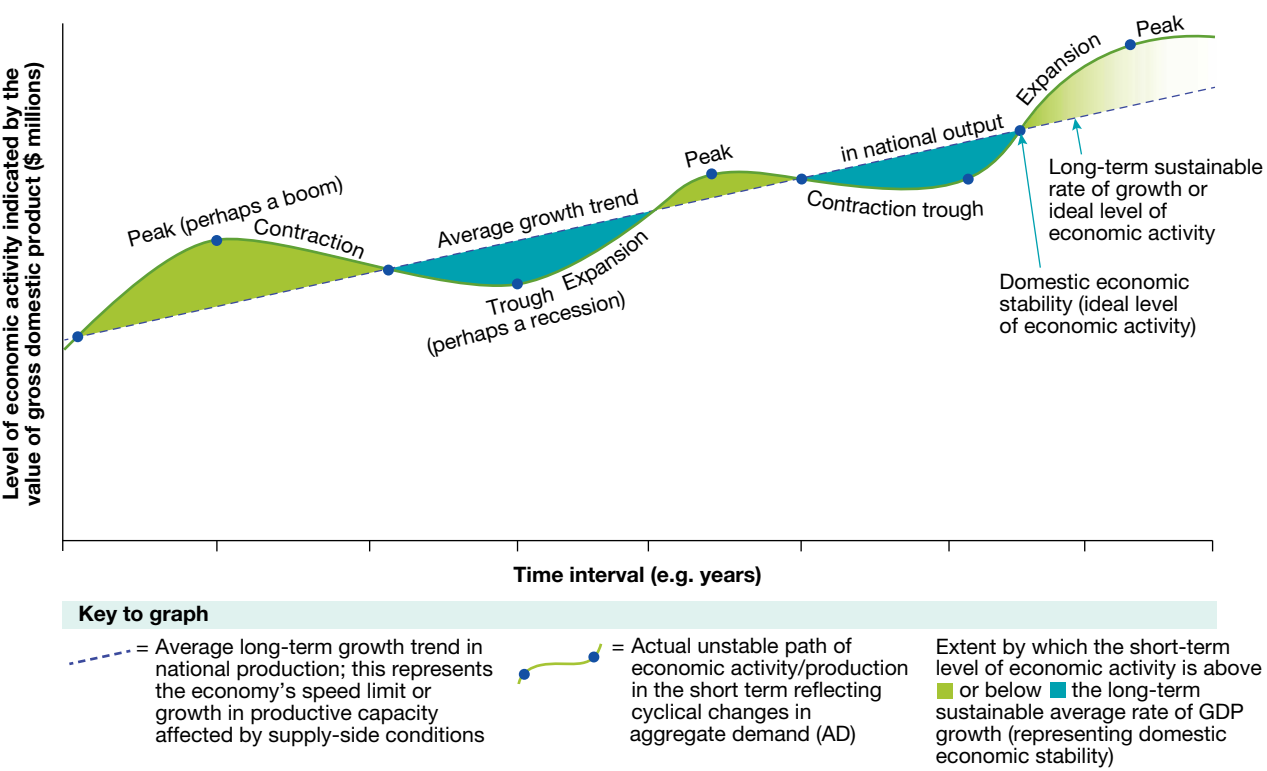
Economists illustrate the ups and downs in the level or pace of economic activity using the *business cycle diagram*. This is shown in figure 2.3. Notice that the level of economic activity passes through various cycle phases — peak, contraction, trough, expansion, etc. Peaks and troughs represent upper and lower turning points in the trade cycle. It can also be seen that the strength, severity and duration of the 'contractions' and 'expansions' may vary considerably. Sometimes the contraction is severe, leading to a deep trough in production and hence cuts in employment, while at other times the trough is more shallow. Sometimes the expansion is strong, leading to high peaks in production and inflation, while at other times the peak is lower.

You should notice that this business cycle diagram (illustrating the typical path of economic activity) has *two* especially important features:

1. There are *short-* to medium-term *cyclical* swings in the level of economic activity or GDP.
2. There is the upward-sloping, *long-term* trend in the level of economic activity or GDP.

We will now look at these *two* features of the diagram in more detail.

FIGURE 2.3 The business cycle diagram illustrates the changing levels or speeds of economic activity in an economy over a period of time.



2.4.2 Short-term phases in the business cycle and the effects on domestic macroeconomic conditions

In the *short-term*, the actual level of economic activity often travels from a peak, through a slowdown (or contraction), past domestic stability, to a trough, an expansion (or recovery), and then back to a peak. This pattern forms one complete economic cycle that is then usually repeated. In Australia, cycles are of different lengths but often last three to eight years or longer.

With this in mind, let us now take a closer look at the *four* main phases of the business cycle. We will note that as the level of economic activity changes, so too will domestic economic conditions including GDP, unemployment and inflation rates.

1. Expansion or recovery phase

Starting at lower levels of GDP, there is an expansion in economic activity, often slowly at first and then gaining pace. After a time lag, typically employment grows, cyclical unemployment falls and inflation slowly starts to accelerate. In Australia, for example, this happened during 2009–10 to 2010–11 and again during 2016–17 to 2017–18.

Indicator	Direction in a recovery
GDP	Increasing
Unemployment	Falling
Inflation	Rising

2. Peak (sometimes boom) phase

Eventually, after a period of expansion, economic activity reaches a cyclical *peak* or upper turning point. After growing at its fastest rate, GDP starts to slow. Unemployment usually falls to its lowest level. On the other hand, inflation is often high. If there is little unused productive capacity and a nation is located outside its production possibility frontier (PPF), a dangerous inflationary **boom** may result where consumer prices rise by more than 3 per cent. Australia experienced a peak (but not a boom), for instance, in 2011–12.

Indicator	Direction in a boom
GDP	→ At highest point
Unemployment	→ At lowest point
Inflation	→ At highest point

3. Slowdown or contraction phase

Slowdowns or *contractions* in the level of economic activity normally follow a peak or possible boom. The growth rate in GDP slows to below trend, or, if severe, national production may even fall. Usually after a time lag, cyclical unemployment rates rise and inflation eases as businesses discount their prices to clear their unwanted and unsold stocks of goods. During 2015–16 and 2018–19 for example, Australia's rate of GDP growth was slower and below the average long-term trend.

Indicator	Direction in a slowdown
GDP	→ Rising more slowly or even falling
Unemployment	→ Rising
Inflation	→ Slowing

4. Trough (sometimes recession) phase

The *trough* represents the lowest point on the business cycle of economic activity. Sometimes this trough is simply a minor slowdown where there is little or no growth in the size of the economy. Usually unemployment is higher than normal, perhaps above 5 per cent. But, if the value of national output actually falls (indicated by a drop in the value of GDP during at least two consecutive quarters or a six-month period), this is technically called a **recession**. Longer and even more severe troughs are termed **depressions**, where inflation is negative (there is deflation).



Indicator	Direction in a recession
GDP	→ At lowest point or even a negative rate
Unemployment	→ At highest point
Inflation	→ At lowest point or even negative

The ideal level of economic activity is called domestic economic stability

Although not actually seen as one of the four phases of the business cycle, sometimes an economy can experience *ideal* conditions called **domestic economic stability** (refer back to figure 2.3 in section 2.4.1). Here strong and sustainable rates of economic growth of around 3 per cent, low unemployment of 4.5–5 per cent, and a low inflation rate of 2–3 per cent, are achieved simultaneously. On the business cycle diagram, this state of ecstasy or economic bliss is located midway between a peak or boom and a trough or recession. Here, the level of economic activity is neither too strong causing an inflationary boom, nor too weak causing recession with high unemployment. Indeed, promoting domestic economic activity is seen as an important domestic macroeconomic goal for the Australian government. As we will see in Unit 4, the Australian government uses its aggregate demand or macroeconomic policies to help steer Australia's level of economic activity towards this prized situation.



Indicator	Ideal situation of domestic economic stability
GDP	Rising at about 3% per year
Unemployment	Low (at around 4.5–5% of the labour force)
Inflation	Low (at 2–3% rise per year)

A special situation called stagflation

In addition to the four phases of the business cycle noted previously, the economy might occasionally experience the awful problem of **stagflation**. Here, the economy simultaneously experiences a fairly stagnant level of production, combined with both high (cost) inflation and (structural) unemployment. This occurred during 1970–77 when, although there was a very slow rate of GDP growth and a high unemployment rate of 6 per cent, there was also high inflation averaging 15 per cent a year. This special situation of stagflation cannot be illustrated on the business cycle diagram because the diagram assumes that the problems of high inflation and unemployment are opposite situations that cannot coexist.

Indicator	Direction in stagflation
GDP	Rising slowly or even a negative rate
Unemployment	At high levels
Inflation	At high levels

2.4.3 The long-term trend in economic activity

To complete our look at the business cycle diagram (refer back to figure 2.3 section 2.4.1), comment should be made about the average long-term trend line for economic activity or GDP, measured over many years.

The upward slope or steepness of the trend line is a guide to the average speed at which the value of national production (measured here in absolute terms) has grown over many years.

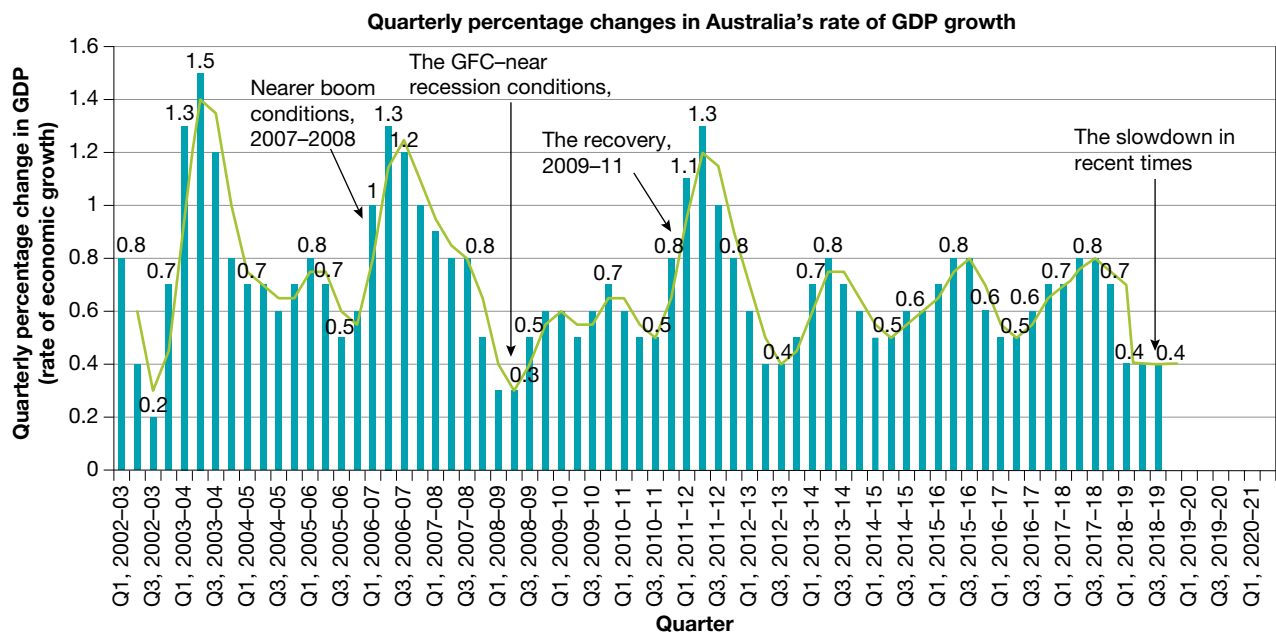
- A *flatter trend line* on the diagram generally means that, on average, there has been only a relatively slow annual rate of growth in the size of the economy's output. Here, aggregate supply, or the combined total output of all goods and services produced by businesses, has grown more slowly over time.
- A *steeper trend line* indicates that, on average over time, aggregate supply has grown at a quicker pace.

By way of example, Australia can sustain an average rise in the value of its chain volume GDP of only 3 per cent a year, or a little more. This makes for a flatter average trend line. In contrast, China can usually manage an average rise of perhaps 6 to 8 per cent per annum, causing its average trend line to be steeper. Clearly the slope of Australia's trend line has implications for our economic performance by affecting the long-term rise in the nation's production, employment, incomes, consumption, inflation and material living standards.

2.4.4 Australia's recent business cycle

Australia has experienced a *business cycle* involving faster and slower rates of economic activity. This is illustrated in figure 2.4, which plots *quarterly* (every three months, four quarters per financial year) percentage changes in chain volume GDP between 2002–03 and 2018–19.

FIGURE 2.4 Trends in Australia's quarterly percentage change in GDP (with an added moving average trend line)



Source: © Australian Bureau of Statistics.

Can you see the wave like pattern where GDP growth rates are much faster in some quarters than in others? Here quarterly rates range from a high of 1.5 per cent down to a low of 0.2 per cent. In particular:

- Notice the high peaks in the level of economic activity during 2003–04, 2006–07 to 2007–08.

- While technically Australia has avoided a recession (defined as at least two consecutive quarters of negative GDP growth) over the last 29 years, we came very close during the global financial crisis (GFC) and subsequent slowdown in 2008–09.
- Following the recovery from the GFC by 2011–12, there was a general slowdown in Australia's pace of economic activity between 2013–19 in which growth rates in GDP were well below the long-term quarterly average of around 0–7 to 0.8 per cent a year.



Resources



Weblink The business cycle

2.4 ACTIVITIES

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Check your understanding

1. What is the business cycle?
2. Describe the main phases of the business cycle and illustrate these diagrammatically.
3. What are the *three* main domestic macroeconomic differences between a period of boom and a period of recession?
4. What is meant by domestic economic stability?
5. What do we mean by a period of *stagflation*?
6. What does the upward sloping *trend line* represent on the business cycle diagram?

Applied economic exercises

1. (a) Draw up a table similar to that below. In your table, describe the *five* main differences between a period of boom, a period of recession and the ideal situation of domestic economic stability. Try to support your answer by quoting statistics. **(4 marks)**

Different features in the economic cycle	Boom	Recession	Domestic economic stability
1. Level of AD			
2. Level of GDP			
3. Level of inflation			
4. Level of unemployment			
5. Material living standards			

- (b) What is *stagflation*? Why can this not be shown on the business cycle diagram? **(2 marks)**
- (c) What type(s) of economic situation, shown on the business cycle diagram, do you feel Australia has been experiencing in the past two years? Justify your answer. **(2 marks)**
- (d) Australia's long-term trend line for economic activity is much slower than that for the Chinese economy. Suggest two important reasons for this. **(2 marks)**

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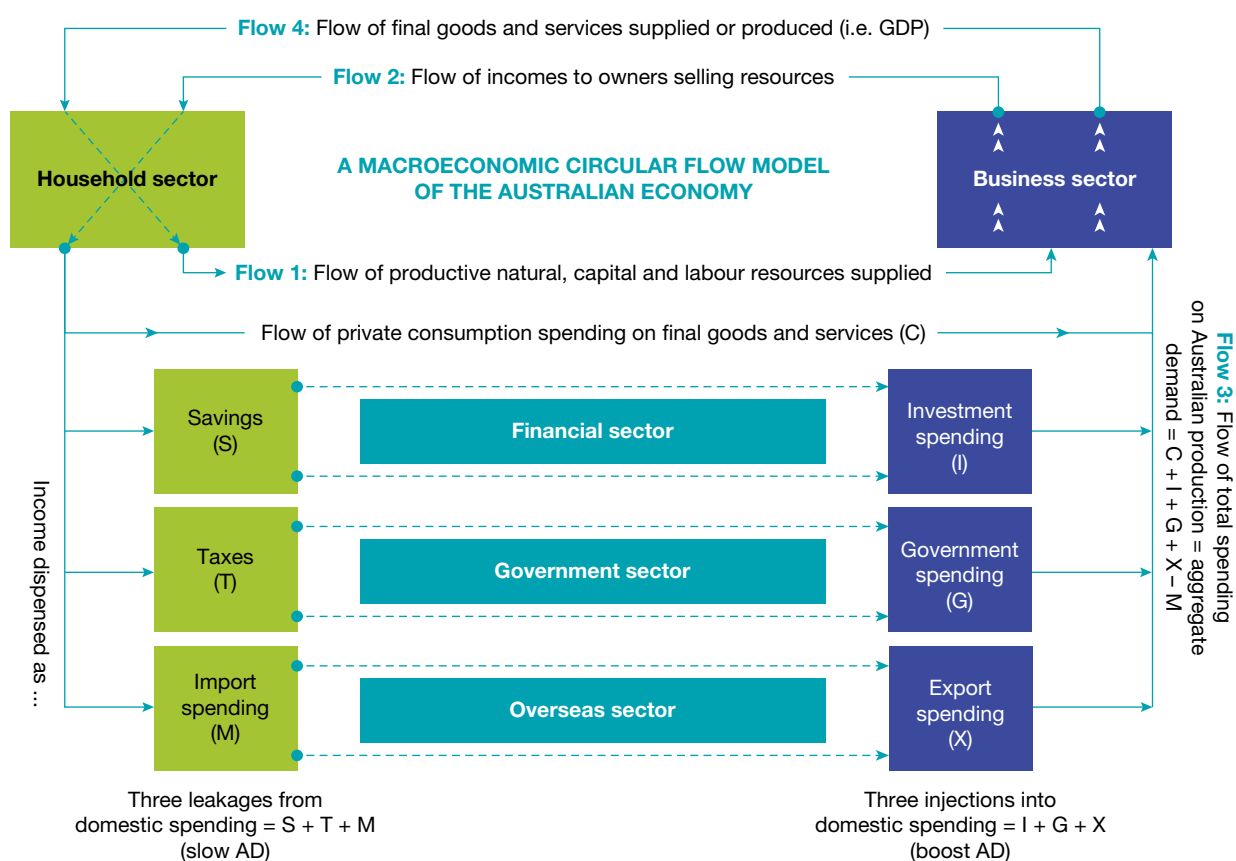
2.5 Using the circular flow model to understand the macro influences on domestic economic activity

KEY CONCEPT

- the circular flow model of income including the role of households, businesses, government, financial institutions and the external sector in an open contemporary macroeconomy

One way to better grasp the nature, causes and effects of changes in economic activity is to use a **five sector circular flow model** (see figure 2.5). This model helps to simplify what the Australian economy looks like and how its various parts interact to influence the macroeconomic levels of GDP, employment, unemployment, incomes and material living standards.

FIGURE 2.5 The five sector circular flow model of the Australian economy



Let us now take a closer look at the model's main *features* and how the diagram can be used to help explain the *causes* and *effects* of changes in national economic activity.

2.5.1 The model's five sectors and the roles of each sector

As can be seen in figure 2.5, the five sector circular flow model of our economy has *two* main parts to it. These are the *household sector* and the *business sector*.

1. Household sector

The household sector comprises all 25 million plus members making up Australia's population. Some members *supply* or sell their resources (natural, labour and capital resources) to firms and then use the money or income received from this to *demand* or buy finished goods and services from businesses, thereby helping to satisfy their needs and wants.



2. Business sector

Surprisingly, Australia's business sector is made up of over 2 million actively trading firms. These businesses *demand* or purchase inputs or resources from households which they then convert into finished goods and services. In turn, businesses *supply* or sell these goods and services to the household sector.

So far we have seen that Australian households and businesses both operate as buyers (demanders) and sellers (suppliers) of goods and services. Essentially, firms buy resources and sell finished goods, while households sell resources and buy finished goods and services. However, in addition to these two main parts of the economy, there are also three sub-sectors — *the financial, government and overseas sectors*.

3. Financial sector

This is made up of the many types of financial institutions including banks, building societies, the stock exchange, credit unions and finance companies. All these organisations borrow the savings (S) of households and then re-lend these to creditworthy customers who use the money to finance their investment spending (I) and the expansion of businesses. Depending on variable economic conditions, there is no reason why the values of S and I in the financial sector will necessarily be of equal value, especially in the short term.

4. Government sector

Governments collect revenue mostly from taxation (T) and other sources, and use this money to pay for government spending (G) and other outlays that, among other things, help to provide collective or public goods and services (including hospitals, roads, defence and schools). Especially in the short-term, T and G as part of the government sector will not necessarily be equal in value, since they largely depend on changing economic conditions.

5. Overseas sector

Each year Australians import goods and services from abroad to help satisfy our wants (M) and we also sell exports to people living overseas (X) to meet their wants. These transactions are conducted in the external or overseas sector. Again, there is no reason why they will necessarily be of equal value, especially in the short term.

2.5.2 The model's four flows

Connecting the main household and business sectors are *four* main flows or streams. These flows are *interdependent* (i.e. one flow affects the other) and also *equal* when measured in money terms (\$) over a period of time. Notice that two of these flows (numbers 2 and 3) relate to the *demand-side* of the economy, and there are also two flows (numbers 1 and 4) associated with the *supply side*.

Flow 1 — available supply of resources

Let's start with flow 1. Here, the household sector *supplies* or makes available natural, labour and capital resources for use by the business sector, which later converts them into finished goods and services.

Flow 2 — total incomes or the demand for resources

Flow 2 represents the *demand* for or purchases of resources by the business sector through the payment of incomes to the household sector. For instance, those individuals selling labour are paid wages and salaries, those lending money capital are rewarded with interest, and those allowing firms to use property gain income in the form of rent. Logically, the money value of all incomes paid to households (flow 2) will equal the money value of all the resources actually sold or purchased (flow 1).

Flow 3 — total expenditure or aggregate demand (AD)

Flow 3 represents the total value of all types of demand or spending on Australian-made goods and services over a period. It is called aggregate demand (AD). The model shows us that upon receiving income, the household and other sectors will then dispose of it in different ways. As illustrated, some of the nation's income ends up as leakages that slow AD, while some income results in injections that increase total spending:

Households

Most household income is spent on private consumption of goods and services such as food and entertainment (C). As shown on the model, income spent as C re-enters the circular flow as part of AD.

Financial sector

Some income is directed into household savings in the financial sector. In themselves, savings (S) are a leakage because they lower the level of C. However, the financial sector may inject some S back into the model by lending them to business firms wanting finance to expand their operations through private investment spending (I). This involves the purchase of plant and equipment. Being an injection of spending, I helps to lift the level of AD.

Government sector

Another part of household income is devoted to paying government taxes. These, too, are classed as a leakage from the model because they lower the level of C. But again, some or all of the money taken out through taxation may re-enter the circular flow if it is used to pay for government consumption and investment spending (G). G is, therefore, an injection into AD designed to help provide the community with collective goods and services, such as public schools, hospitals, roads or defence.

Overseas sector

Some household income leaks out of the Australian economy as spending on imports of goods and services (M). Sometimes this leakage is partially or fully offset by overseas spending on our nation's exports (X). Here, X is regarded as an injection or addition to the level of AD.

In summary, flow 3 represents the total value of spending on Australian-made goods and services measured over a period of time. This is called AD and it consists of $C + I + G + X - M$. The reason for subtracting M at this point is to exclude spending on imported goods and services, so that what



remains is only the *value of expenditure on Australian-made items*. So far we have seen that the level of AD is influenced by the total value of leakages (made up of $S + T + M$) relative to the total value of injections (made up of $I + G + X$). If there was a rise in leakages relative to injections, AD would fall. Conversely, if there was a fall in leakages against a rise in injections, there would be an increase in AD or spending on Australian-made goods and services.

Flow 4 — flow of final goods and services supplied (GDP)

Flow 4 is the total value (\$) of goods and services actually produced or supplied by the business sector measured over a period of time. This represents aggregate supply. It reflects the overall level of Australian economic activity (commonly measured by gross domestic product or GDP). Especially in the short to medium term, the actual level of economic activity or GDP is dictated by the value of AD (flow 3). In the longer term, the supply of resources available (flow 1) is also important since it has a critical effect on the economy's productive capacity or potential level of GDP. In other words, the overall level of economic activity is determined by both *aggregate demand* and *aggregate supply* factors.

2.5.3 Using the model to explain changes domestic economic activity

When examining the circular flow model in figure 2.5, we have already noted that there are *two* main influences on the size of GDP (our key macroeconomic indicator of activity):

1. the level of **aggregate demand**
2. the level of **aggregate supply**.

Let us now take a closer look at these two influences.

1. Aggregate demand determines the actual short-term cyclical level of economic activity

Applying the circular flow model, we can see that the cyclical ups and downs in GDP (flow 4) are largely caused by increases or decreases in the level of AD (flow 3, or, the total value of expenditure on Australian-made goods and services, made up of $C + I + G + X - M$). Additionally, the model also shows that changes in AD can be caused by changes in the total value of leakages ($S + T + M$) relative to the total value of injections ($I + G + X$).

Notice how in the short-term, cyclical changes in AD cause the actual level of economic activity to either rise or fall:

- *Rising economic activity.* A *period of expansion* in GDP is generally caused by a stronger growth in AD. This reflects lower leakages and/or higher injections. When businesses see AD or sales rise and levels of unsold stocks fall perhaps leading to widespread shortages of goods and services and perhaps rising prices or inflation, they lift their output (as long as there is some unused or spare productive capacity available). This causes GDP to rise, increasing the demand for resources, creating more jobs and growing national incomes.
- *Slowing economic activity.* A *period of slowdown* in GDP is largely the result of a weaker growth in AD. This reflects higher leakages and/or lower injections. When businesses see a drop in spending and sales leading to unplanned rises in stocks, they often discount their prices and cut their output, causing GDP to slow. In turn, the demand for resources falls, unemployment rises and national income declines — typical characteristic of a recession.

Remember, especially in the short term:

The value in AD (made up of $C + I + G + X - M$) → affects the value of GDP and national income

2. Aggregate supply can also influence the potential level of economic activity in the longer term

As important as aggregate demand is in determining economic activity, the circular flow model also refers to the available *supply* of resources by households (flow 1) and the total or *aggregate supply* of finished goods and services by businesses called GDP (flow 4). While aggregate supply can respond to changes in aggregate demand in the short term, in the long-term the *potential* national level of output supplied is largely governed by the *quantity* and *efficiency* of resources available for use by businesses. When *aggregate supply* is at its *potential* or maximum level, it can be thought of as being similar to a point located on a nation's production possibility frontier (PPF). This means that:

- Aggregate supply or the total output of an economy or potential GDP can keep *growing*, only if businesses have access to a greater volume of resources or if they use existing resources more efficiently.
- Aggregate supply will be *lower* if there is reduced access to resources or if businesses close down rather than expand.

Remember, especially in the longer term:

Aggregate supply (determined partly by the resources available) → affects the potential level of GDP

In the remaining sections of this topic, we will take a detailed look at the various *factors* affecting *aggregate demand* and *aggregate supply*, since these are the macroeconomic determinants of Australia's economic activity.

on Resources



Weblinks

The circular flow of income

Measuring GDP using the income approach and the expenditure approach

The circular flow model of a market economy

Circular flow of income — how the different components of an economy interact

2.5 ACTIVITIES

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Check your understanding

1. Test your memory by drawing and fully labelling the five sector circular flow model of the economy.
2. Describe the key functions of each of the five sectors shown on the circular flow model.
3. Accurately define each of the key flows shown on the circular model (including AD, GDP and total incomes).
4. According to the model, what causes the level of economic activity to rise or fall?
5. According to the model, what are the main factors that ultimately determine the rate of growth in a nation's productive capacity and potential GDP?

Applied economic exercises

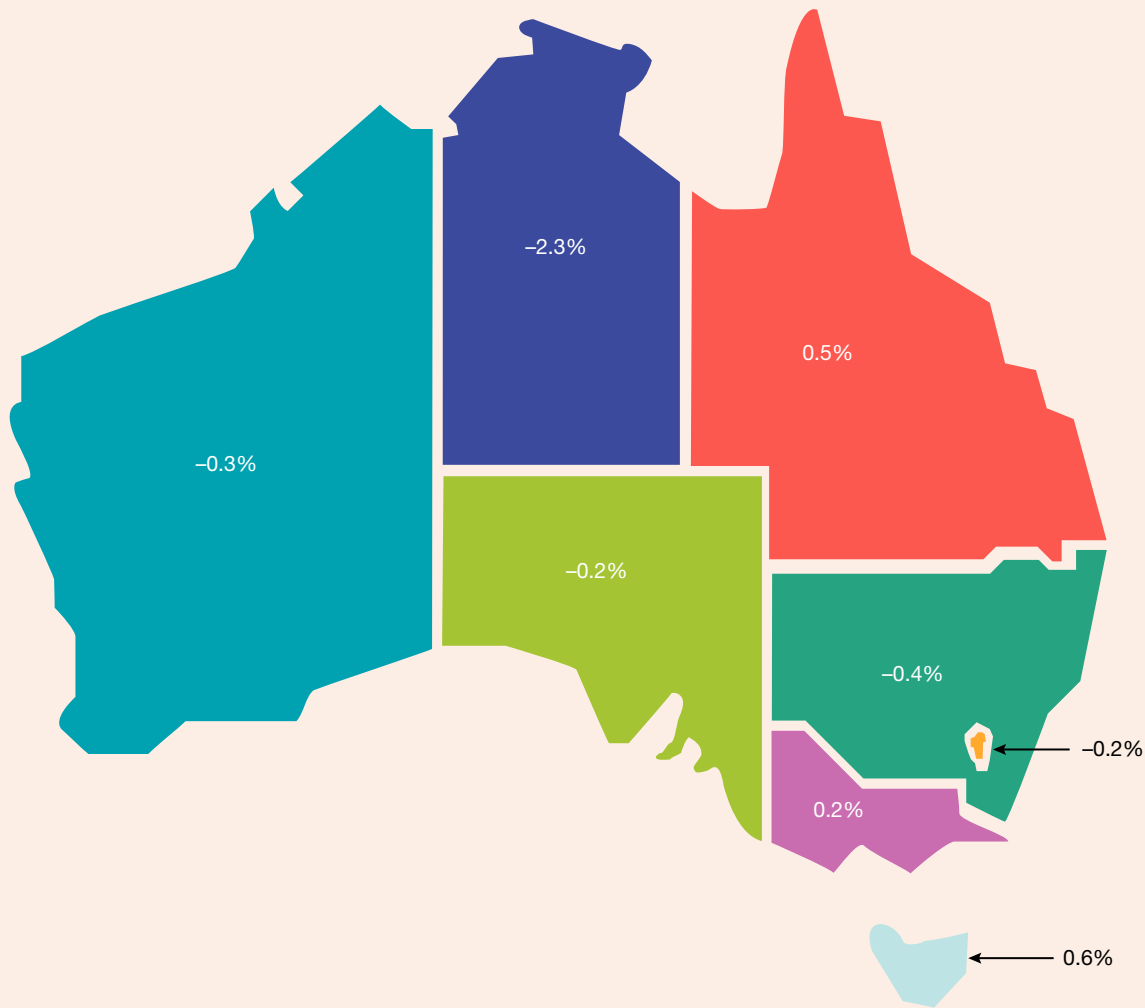
1. (a) Use the model to explain how generally *weaker* macroeconomic or *aggregate demand factors* would be likely to affect the level of economic activity in the short to medium term. **(2 marks)**
(b) Use the circular flow model to logically step through your explanation of the macroeconomic *effects* of the following events on the Australian economy.
 - i. A rise in the level of savings
 - ii. A drop in imports
 - iii. Increased private consumption
 - iv. Lower investment spending
 - v. Cuts in income and company tax rates

- vi. A fall in leakages relative to injections
- vii. Rises in GDP
- viii. A drop in total household incomes
- ix. A reduction in the availability and efficiency of resources

(9 marks)

2. Examine figure 2.6 before answering the questions that follow.

FIGURE 2.6 The rise in demand or spending by state in the quarter ending March 2019



Source: Australian Bureau of Statistics. 5206.0 Australian National Accounts National Income, Expenditure and Product, 2018.

- (a) Which two states enjoyed the *fastest* growth in their total spending in the March quarter, 2019 and which two states had the *slowest* rise? (2 marks)
- (b) Suggest why some states recorded faster rises in spending than others. (2 marks)
- (c) Predict the likely macroeconomic *effects* of the change in spending or demand in Western Australia. (2 marks)

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2.6 Meaning and importance of aggregate demand and the factors affecting domestic economic conditions

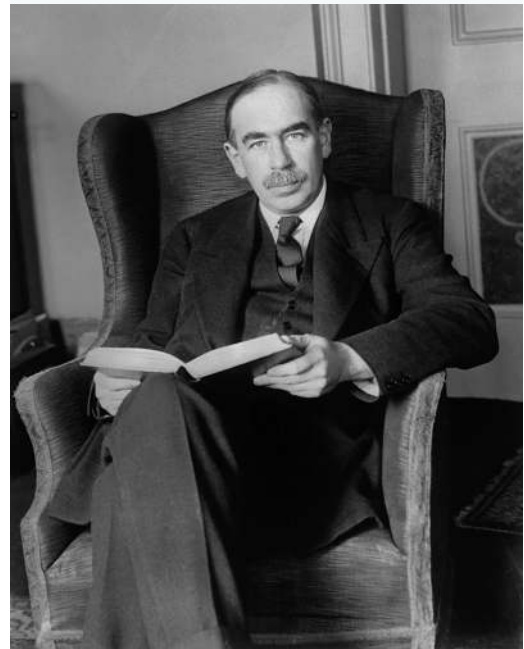
KEY CONCEPT

- the meaning and importance of aggregate demand and the factors that may influence the level of aggregate demand in the economy: changes in the general level of prices, disposable income, interest rates, consumer confidence, business confidence, the exchange rate and rates of economic growth overseas

In subtopic 2.5, we established the central importance of *aggregate demand* (AD, consisting of $C + I + G + X - M$) in determining Australia's shorter term or cyclical level of economic activity. Before the 1930s, little significance was attached to the role of total spending. However, this soon changed. In his best-known book, *The General Theory of Employment, Interest and Money*, published in 1936, well-known British economist John Maynard Keynes (pictured in figure 2.7) pointed out that short-term instability in AD and its components was mainly responsible for the cyclical ups and downs in the level of economic activity. This period marked the start of macroeconomics as an area of study.

Following his premature death in 1946, Keynesian demand-side economics reached its pinnacle in popularity throughout market capitalist economies, including Australia, during the 1950s and 1960s. However, confidence in this theory was undermined when it was unable to deal with the problem of *stagflation* (stagnant production, high unemployment and rapid inflation) experienced in the 1970s. Despite its tarnished reputation, Keynesian theory is still seen as highly relevant today for understanding and regulating economic activity. Nowadays, emphasis is also placed on the factors affecting aggregate supply (AS) and the nation's productive capacity.

FIGURE 2.7 John Maynard Keynes (1883–1946) was a British economist whose ideas had a significant impact on modern macroeconomic or aggregate demand theory and practice.



'Capitalism is the astounding belief that the most wickedest of men will do the most wickedest of things for the greatest good of everyone.'

'The difficulty lies, not in the new ideas, but in escaping from the old ones . . .'

'But this *long run* is a misleading guide to current affairs. *In the long run* we are all dead.'

John Maynard Keynes

2.6.1 The meaning and nature of aggregate demand

Recall that aggregate demand (AD) refers to the combined or total annual value of spending by households, governments and net overseas transactions on Australian-made goods and services. As a macroeconomic variable, it consists of the sum of the following types of expenditure or components making up AD:

- Private consumption spending by households (C)
- *Private investment spending* by businesses on plant and equipment (I)

- Public consumption spending by governments (G1)
- Public investment spending by governments (G2)
- *Net overseas expenditure* made up of spending on our exports (X) from abroad minus spending on imports (M) by local residents.

Aggregate demand can be expressed as follows:

$$\text{Aggregate demand (AD)} = \underbrace{(C + I)}_{\text{Private spending}} + \underbrace{(G1 + G2)}_{\text{Public spending}} + \underbrace{(X - M)}_{\text{Net overseas spending}}$$

Components of aggregate demand

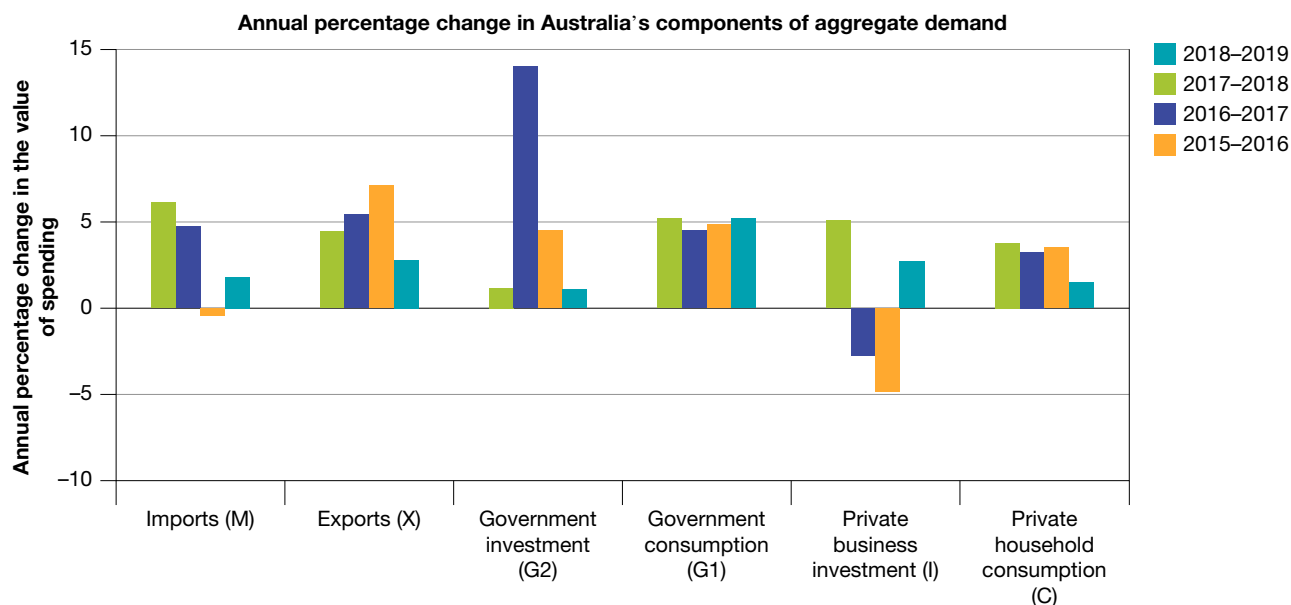
Let us take a closer look at these important components making up Australia's level of aggregate demand.

- **Private consumption (C):** Private consumption (C) includes household expenditure designed to help satisfy our immediate needs and wants for durable and single-use goods such as food and clothing, as well as services like rent (but not investment in houses), transport, power, entertainment and childcare. While this component is normally relatively stable, its rate of growth can vary, contributing to economic instability. It represents almost 60 per cent of AD.
- **Private investment (I):** Private investment (I) involves private business capital spending on products used to make other goods and services, and often designed to grow businesses. These include physical plant, manufactured materials and equipment including machinery, buildings including dwellings, aircraft, dams, fertiliser, computers and farm vehicles. While this type of spending adds to AD, it also helps to raise our nation's productive capacity and make possible the production of other goods and services, as well as improving the efficiency of labour and natural resources. Although this component represents less than 22 per cent of AD, unfortunately its level is very unstable.
- **Government consumption (G1):** Government consumption (G1) is public expenditure on the goods and services used to help satisfy the community's immediate needs and wants. It incorporates spending on staff wages for government departments, including politicians, defence spending and day-to-day running costs such as stationery and telephone calls. Government spending does not include welfare outlays because these are *not* actually *spent* by the government, but rather by welfare benefit recipients. In recent years, G1 has averaged around 17 per cent of AD.
- **Government investment (G2):** Government investment (G2) incorporates government capital or investment expenditure on equipment needed for the provision of public social and economic infrastructure. It includes spending such as the building of schools, hospitals, roads, railways, telecommunications networks and water supply. It is also used to help expand Australia's productive capacity and improve the efficiency of other resources. This spending represents only about 3 per cent of AD.
- **Net exports (X – M):** Net exports (X – M) represent the balance or difference between foreign spending on Australia's exports of goods and services such as primary produce, manufactured items, tourism and education, *minus* our spending on imports of goods and services, including electronic equipment, capital goods, travel abroad, shipping, insurance, cars and oil. X and M each represents about 18 to 24 per cent of AD. The net impact of the external sector on AD is usually plus or minus about 4 per cent. However, this net figure behaves erratically.
- **Net increase in unsold business stocks:** Net increase in unsold business stocks are a relatively minor item in AD. They represent money that has been spent by firms to make items that have not yet been sold in the current period of time.

Reasons for the volatility of aggregate demand

Even over quite short periods of time between one year and the next, these *components* or parts making up Australia's AD are quite unstable and prone to fluctuation, as shown in figure 2.8. It is therefore hardly surprising that the level of economic activity also shows volatility where it speeds up and slows down.

FIGURE 2.8 The volatile and changeable nature of the components of Australia's aggregate demand.



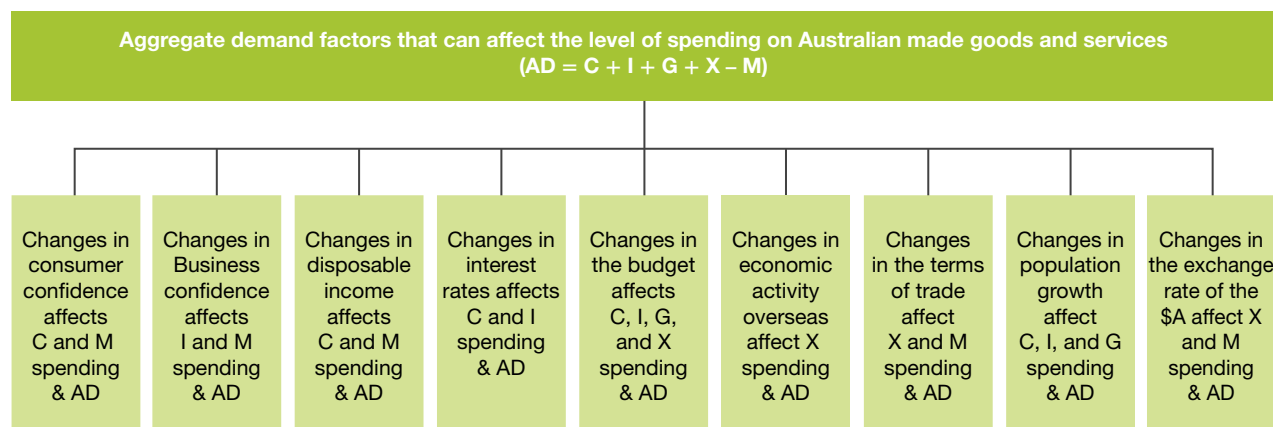
Source: Data derived from ABS 5206.0, Table 42; also see RBA Statistics, Table H2.

We now turn to consider the macroeconomic reasons for this volatility in the components making up the level of AD.

2.6.2 Macroeconomic factors that may influence the level of aggregate demand

In topic 1 we examined the *microeconomic demand conditions* affecting the quantity of a single good or service that buyers were prepared to purchase at different price levels. Now, however, we are interested in the *macroeconomic aggregate demand factors* that cause rises or falls in spending (AD made up of $C + I + G + X - M$) at various prices, across the whole Australian economy. These are summarised in figure 2.9.

FIGURE 2.9 Aggregate demand factors that can affect levels of spending on Australian-made goods and services.



- *Household or consumer confidence.* Consumer confidence or sentiment refers to general household expectations about their future income, employment prospects and inflation. **Consumer confidence** affects the future decisions of households about whether to spend on local or foreign-made goods and services, or save their income. Hence it is clearly an aggregate demand factor. After a time lag, weaker confidence (greater pessimism) lifts household savings and depresses C. This tends to slow AD and economic activity. However, stronger confidence has the reverse effect.
- *Household disposable income.* Household **disposable income** is the money available for spending by individuals after receiving government welfare transfers and following the payment of personal tax. This is an aggregate demand factor because it affects the level of household C of local and foreign-made goods and services. A more rapid rise in disposable income usually causes an acceleration in C and M. However, a slower growth in disposable income weakens AD, and slows GDP and economic activity.
- *Rate of population growth.* A country's population growth rate is influenced by both the net natural increase in population (births minus deaths) and by net migration (immigration minus emigration). This is an aggregate demand factor since it will especially alter expenditure on C, G and M. Overall, a faster rate of population growth rate tends to lift AD, while a slower rate tends to reduce AD and economic activity.
- *Business confidence.* Business confidence or expectations has to do with whether firms are generally feeling optimistic or pessimistic about their level of future sales and profits. **Business confidence** is an aggregate demand factor because it affects the level of business investment spending (I) on new plant and equipment. If firms are optimistic and expect higher future sales and profits, after a time lag they lift I in order to help expand their productive capacity. Here, their spending tends to accelerate AD and economic activity. By contrast, the reverse occurs if business pessimism sets in.
- *Interest rates.* Interest rates are the cost of borrowing money (credit). Along with other factors, they are influenced by the Reserve Bank of Australia (RBA) and are part of its monetary policy stance. This policy is designed to affect the growth in credit-sensitive C (on consumer durables) and I spending (on the purchase of new equipment and the expansion of businesses). As a consequence, interest rates are seen as an aggregate demand factor affecting GDP, employment and income levels. After a time lag, a rise in interest rates tends to slow C and I, thus weakening AD and domestic economic activity, while a reduction in interest rates tends to eventually accelerate AD and GDP growth.
- *Budgetary policy stance.* The budgetary policy (also called fiscal policy) stance relates to changes in expected government receipts and outlays for the year. Clearly, tax rates, outlays on welfare, industry assistance for exporters and spending on public goods like education, health or defence, can affect AD by influencing levels of C, I, G1, G2, X and even M. We will see that whether the government runs a budget surplus (where tax and other receipts exceed outlays) or a budget deficit (where its outlays exceed its receipts) depends on many things, especially the macroeconomic conditions (i.e. whether the level of economic activity is weak or strong).
- *Public and private indebtedness.* Some Australian households, businesses and governments need to borrow money to finance their spending because their current levels of savings are too low. Such credit causes a rise in indebtedness. Recently, this has added to our record levels of both private sector and public sector indebtedness. Tolerance and affordability of rising debt is clearly an aggregate demand factor that can affect C, I and G spending, and hence the growth in AD and level of domestic economic activity.



- *Economic activity overseas.* Economic activity overseas among our trading partners involves the general pace of production in countries including Japan, the United States, New Zealand and China, and whether these nations are experiencing a period of boom or recession. This is an aggregate demand factor that alters the level of overseas spending on X (exports of locally made commodities, services and manufactured goods), and may possibly influence levels of foreign I. After a time lag, a downturn in activity overseas usually means weaker X sales (lower injections) and AD in Australia, thereby slowing domestic economic activity. However, the reverse applies if activity abroad rises.



- *Terms of trade.* The **terms of trade** measures the ratio of the average prices the world is prepared to pay us for our exports against the average price we pay the world for our imports. It is regarded as an aggregate demand factor because the *prices* we receive or pay in international transactions affect the *value* of our exports or injections against the value of imports or leakages. It is measured by means of an index that uses a base year as the basis of comparisons for following years. The terms of trade index = export price index ÷ import price index × 100. For instance, a rise in the terms of trade index tends to increase the value of our X (injections) relative to M (leakages). This tends to boost AD and economic activity, while a fall has the reverse effect.
- *Exchange rate for the Australian dollar.* Each year there are millions of international transactions between countries. For this to occur, currencies need to be swapped or exchanged. The **exchange rate** is the price at which the Australian dollar is swapped for other currencies. Changes in the dollar's *average* value can be gauged using the **trade weighted index (TWI)** consisting of a basket of key currencies or, alternatively, any of the individual exchange rates for around 200 foreign currencies. The exchange rate affects the price or attractiveness of exports relative to imports. In turn, this affects the value of Australia's exports against the value of our imports. For example, a depreciation (fall in value) of the Australian dollar tends to boost the value of our Xs (injections) and reduce Ms (leakages), thereby increasing our levels of AD and economic activity. However, when the Australian dollar appreciates (rises in value), this slows net exports (X – M) and hence economic activity.

Table 2.1 summarises some of Australia's most important macroeconomic or aggregate demand drivers of spending and economic activity, especially in the short term.

TABLE 2.1 Macroeconomic drivers of AD and short-term economic activity in Australia

Component of aggregate demand (AD)	Important macroeconomic or aggregate demand-side factors or conditions affecting the level of spending
Household consumption spending (C)	• Consumer confidence • Disposable income • Interest rates on credit • Household savings and debt
Business investment spending (I)	• Business confidence • Interest rates on credit • Business stocks of unsold goods

Component of aggregate demand (AD)	Important macroeconomic or aggregate demand-side factors or conditions affecting the level of spending
Government consumption and investment spending (G1 & G2)	• Domestic economic conditions • Election promises and political conditions • Budgetary policy settings and public sector debt
Net overseas or external spending (X – M)	• Value of the Australian dollar or exchange rate • Overseas and domestic economic conditions and confidence • Terms of trade and global commodity prices

2.6.3 Reviewing how changes in aggregate demand factors can affect the economy

Before closing this section about aggregate demand, it's worth reviewing the significance of changes in aggregate demand factors on the level of economic activity and prevailing domestic macroeconomic conditions. By affecting the components making up AD, changing macroeconomic aggregate demand factors can cause total spending to either rise or fall. In so doing, this alters the short-term cyclical level of GDP, economic activity, inflation, unemployment, incomes and material living standards. Figures 2.10 and 2.11 summarise the main steps or sequence in our explanation of changing economic conditions.

FIGURE 2.10 The significance of generally stronger aggregate demand-side factors

Stronger macroeconomic demand-side factors that increase AD and domestic economic activity	
Step 1 	Generally stronger aggregate demand factors (e.g. robust levels of consumer and business confidence, overseas activity) will boost levels of C, I, G and net Xs, thus increasing total sales of goods and service and lifting AD.
Step 2 	With generally rising sales, lengthening orders and unplanned falls in warehouse stock levels, businesses will usually try to increase their production, providing there is some unused productive capacity available. If this spare capacity is not available, falling stocks may lead to widespread shortages of goods and services, creating inflationary pressures.
Step 3 	As firms try to increase production, the level of GDP will rise and the pace of economic activity will quicken. There is an upswing in the business cycle.
Step 4 	The increase in production requires that firms purchase more resources, including labour. This tends to create more jobs and reduce unemployment.
Step 5 	When most firms employ more resources, average incomes rise. Economic prosperity and material living standards may improve as long as inflation remains low.

FIGURE 2.11 The significance of generally weaker aggregate demand-side factors

Weaker macroeconomic demand-side factors that decrease AD and domestic economic activity	
Step 1 	Generally weaker aggregate demand factors (e.g. drops in disposable income and terms of trade, and higher interest rates) will tend to slow levels of C, I, G and net Xs, thus reducing total sales of goods and service and decreasing AD.
Step 2 	With generally falling sales, shortening orders and unplanned rises in warehouse stock levels, businesses will usually cut their output levels to avoid further overproduction. Because there is likely to be widespread price discounting by firms to clear excess stocks, inflationary pressures disappear.
Step 3 	As most firms try to cut production, the level of GDP will decrease and the pace of economic activity will weaken. There is a slowdown in the business cycle.
Step 4 	This decrease in production requires that firms purchase fewer resources, including labour. This tends to reduce the number of jobs and increase unemployment.
Step 5 	Because most firms are employing fewer resources, incomes fall. Economic prosperity and material living standards usually deteriorate.



Resources



Weblinks Aggregate demand practice
Keynesian economics and the Great Depression

2.6 ACTIVITIES

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Check your understanding

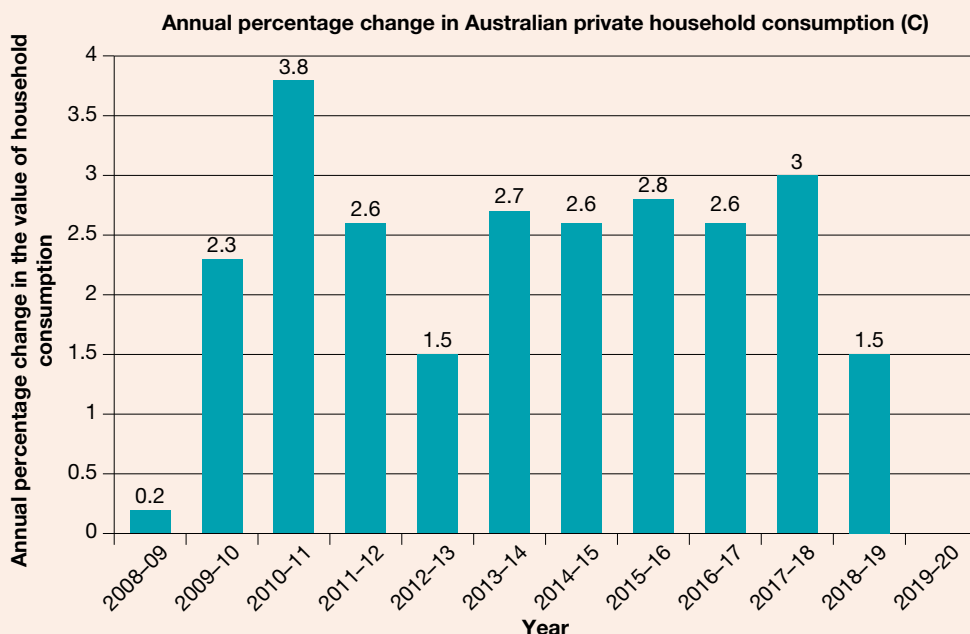
1. Define the term *aggregate demand*.
2. Keynesian economics traces changing levels of economic activity to changes in AD, which in turn reflect aggregate demand factors. Identify and explain *two* important aggregate demand factors that may affect the levels of each of the components of spending that make up AD (C, I, G, X and M).
3. Explain, step-by-step, the economic effects of a *rise* in the level of AD.
4. Explain, step-by-step, the economic effects of a *fall* in the level of AD.

Applied economic exercises

1. (a) Define what is meant by the term *aggregate demand* (AD) and outline the key factors affecting its level. **(2 marks)**
 (b) In general terms, carefully work through the effects on the level of economic activity of:
 - i. a rise in the level of AD **(4 marks)**
 - ii. a fall in the level of AD. **(3 marks)**
- (c) Identify and outline three important aggregate demand factors that potentially could increase the level of economic activity in Australia. **(3 marks)**
 (d) Identify and outline *three* important *aggregate demand factors* that potentially could *slow* the level of economic activity in Australia, other than those selected for your answer in part (c). **(3 marks)**

2. (a) Briefly define private consumption spending (C). (2 marks)
 (b) Using figure 2.12, describe the recent changes in Australian household consumption spending. (1 mark)
 (c) Identify, define and explain *two* important aggregate demand factors that could account for the trends in Australia's private consumption between 2017–18 and 2018–19. Try to support your answer with statistical data drawn from figure 2.12. (4 marks)

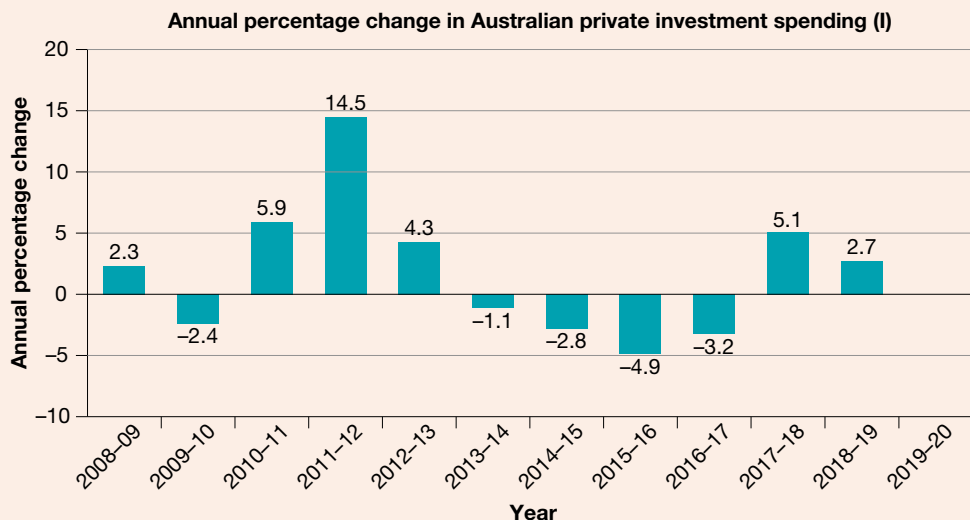
FIGURE 2.12 Recent changes in Australian household consumption spending (C)



Source: Data derived from ABS 5206.0.

3. (a) What is *private investment spending* (I) and how does its level affect economic activity? (2 marks)
 (b) Examine figure 2.13 showing changes in private investment spending. Identify, define and explain *two* important *aggregate demand factors* that could account for the trend in private investment spending between 2016–17 and 2017–18. Try to support your answer with statistical data drawn from figure 2.13. (4 marks)

FIGURE 2.13 Annual percentage change in Australian private business investment spending (I)



Source: Data derived from ABS 1350.0, 5206.0.

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2.7 Meaning and importance of aggregate supply and the factors affecting its level and domestic economic conditions activity

KEY CONCEPT

- the meaning and importance of aggregate supply and the factors that may influence the level of aggregate supply in the economy: changes in the general level of prices, quantity and quality of the factors of production, cost of production, technological change, productivity growth, exchange rates and climatic conditions

Ultimately or in the long-term, the size and growth of Australia's GDP are limited by the levels of aggregate supply (AS) and a country's productive capacity. Remember that *aggregate supply refers to the combined production level of all the nation's businesses measured over a period of time*. Previously we noted that in the end, the nation's potential supply or production level (economic activity) is especially limited by the quantity (volume) and efficiency (productivity) of its available resources.

This is not at all a new idea. Indeed, classical economists such as Adam Smith (1723–1790), John Stuart Mill (1806–1873) and Jean Batiste Say (1767–1832) all emphasised the importance of the aggregate supply side of the economy as the main determinant of economic activity. Perhaps the clearest statement was contained in Say's Law. Roughly summarised, this claims that '*supply creates its own demand*'. Thus, the more goods and services produced or supplied, the more income is created and the greater the level of demand or spending. According to this theory, there could never be severe underproduction (boom) or overproduction (recession), since spending should exactly match incomes and the level of production supplied. Furthermore, given competition and self-interest, a nation's output level would be close to the economy's productive capacity so that all resources would be fully employed. Ultimately, the level of economic activity would be limited only by the availability of a nation's resources.

Emphasis on aggregate supply as a key determinant of economic activity has moved in and out of fashion. The Great Depression (1929–33) for instance, vividly demonstrated that supply did *not* always create its own demand and that there could be overproduction and 30 per cent unemployment! Indeed, it was John Maynard Keynes' General Theory that turned Say's Law on its head! He in fact claimed that '*demand dictates supply*'. However, in the 1970s — after 40 years in retirement — a variation on traditional supply-side theory was pushed by an American economist, Arthur

FIGURE 2.14 Arthur Laffer's ideas have helped to popularise supply-side economics



Laffer (shown in figure 2.14), along with others. Since the 1970s, these new ideas have been further refined, giving rise to a range of government aggregate supply-side policies that sought to create incentives for firms and individuals to improve efficiency and lift their level of output. This approach was clearly evident in the policies of the Reagan ('Reaganomics') and Thatcher ('Thatcherism') administrations in the United States and the United Kingdom respectively, as well as in those of the Hawke, Keating, Howard and subsequent Coalition governments in Australia to 2020. Even so, it is now realised that both the aggregate supply and aggregate demand sides of the economy have important complementary roles to play in influencing economic activity at the macroeconomic level.

'Government spending is taxation. When you look at this, I've never heard of a poor person spending himself into prosperity; let alone I've never heard of a poor person taxing himself into prosperity.'
'And you can't have a prosperous economy when the government is way over spending, raising taxes, printing too much money, overregulating and restricting free trade. It just can't be done.'

Arthur Laffer

2.7.1 The meaning and nature of aggregate supply

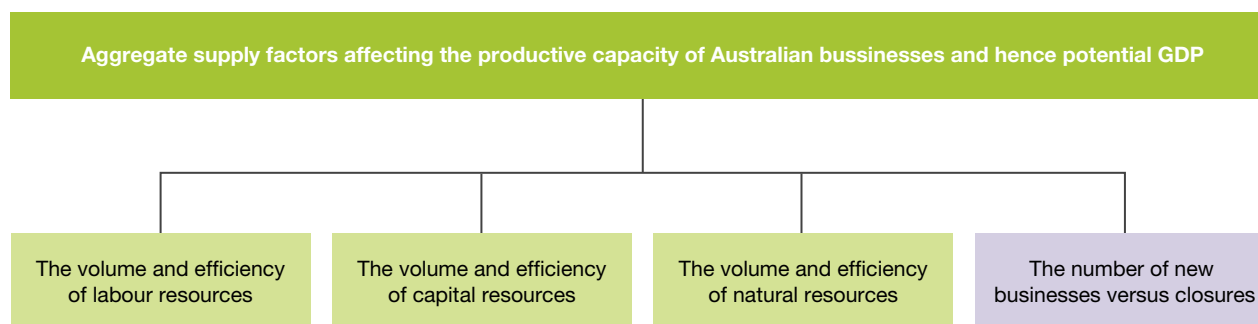
Another way of defining *aggregate supply* (AS) is as the overall level of production of all types of goods and services (including consumer, capital and public goods) that are collectively produced or supplied at given general levels of prices, by the nation's businesses, measured over a period of time.

Up to a point, firms are generally more *willing* and able to *expand* their collective supply or national production in response to a general rise in prices or an increase in total spending, provided there is some spare capacity or available resources in the economy. Beyond this point, where no unused capacity exists (there are no unemployed resources) and a nation is on its production possibility frontier (PPF), aggregate supply cannot grow further unless there are changes involving better *macroeconomic supply conditions* that make businesses even more willing and able to lift their production levels.

2.7.2 The factors that may influence the level of aggregate supply

There are at least *four* main groups of **aggregate supply factors** affecting the overall quantity of goods and services that Australian businesses are collectively willing and able to produce or supply at various price levels in our economy (see figure 2.15).

FIGURE 2.15 Aggregate supply factors that can affect a nation's productive capacity and the potential level of its GDP



1. Increasing access to labour resources can grow productive capacity and aggregate supply

Increasing the size, skills and productivity of the labour force can greatly enlarge a nation's productive capacity, grow the level of aggregate supply and help increase the sustainable pace of economic activity. Access to labour resources may be affected by many factors including the following:

(a) Demographics and the population's age structure

The increase in the size of the population and its age distribution, affect the size and growth of the nation's labour force. Australia's *ageing population* (where there is a rising proportion of the population in older age groups) is causing *labour shortages* or bottlenecks in some industries that limit the expansion of our productive capacity and the level of aggregate supply.

(b) Participation rates and the size of the labour force

The participation rate in the labour force is the proportion of people aged 15 and over who are able and willing to work. This proportion will affect the supply of labour and hence access to the labour resources needed to grow a nation's productive capacity.

(c) Various government aggregate supply policies

There are several key government policies that can affect access to labour resources. For example:

- *Immigration policies.* These include setting annual target levels, giving priority to certain skills and selecting those in younger age groups.
- *Education policies.* These shape the effectiveness and level of spending on education, skills and training, that in turn impact on innovativeness and productivity of the labour force.
- *Policy about welfare access.* This affects how difficult it is to gain welfare payments. It may include the setting of the pension access age, work obligations for those with children, and requirements for the unemployed to demonstrate they are actively looking for work. In turn, this impacts on the participation rate and the size of the labour force.
- *Financial assistance with childcare.* This affects the cost of childcare and the affordability of having children. It also impacts on whether parents participate in work.

(d) Labour productivity

High labour productivity allows for a greater level of output per worker. This is often measured by the annual percentage change in GDP per hour worked. Many factors affect labour efficiency, including access to the latest capital equipment, effective management practices, the work environment, skills and training, and the use of financial and other incentives.

(e) Amount of leisure time and hours of work

Typically, fulltime work occupies around 40 hours per week. The rest is available for sleep and leisure. Over recent decades, there has been a decrease in leisure and an increase in hours worked. This has increased the volume of labour resources available and helped to grow productive capacity or aggregate supply.

2. Increasing access to capital resources can grow productive capacity and aggregate supply

Building up a nation's capital resources is essential for increasing productive capacity and aggregate supply. This may be affected by many factors, including the following.

(a) Investment levels

Capital resources are increased through high levels of private and public investment in new plant and equipment. Investment also comes from foreign capital inflow designed to set up or finance new firms and grow productive capacity.

(b) Interest rates

The purchase of new plant and equipment helps to expand companies, efficiency, profitability and capacity. However, this is often expensive so that most firms need to borrow credit from banks and pay interest on their overdrafts. When interest rates are high, this deters investment, slows the growth of capital resources and limits capacity and aggregate supply.

(c) Outlays on technology and R&D

The use of new technology like robotics in various industries such as manufacturing, warehousing and medicine, along with investments in research and development (R&D), can help increase the volume and efficiency of capital resources, adding to our productive capacity.

(d) Tax rates

It is claimed that low tax rates on businesses can provide *incentives* for higher levels of business investment in new, more efficient capital equipment needed to expand capacity. In addition, lower tax rates on personal incomes can encourage greater participation in the labour force and higher productivity.

(e) Adequacy of national infrastructure

Businesses depend heavily on efficient social infrastructure (such as education), especially on **economic infrastructure** (such as roads, railways, water, power and telecommunications). Good infrastructure helps to cut business costs, and improve international competitiveness and profitability. Firms become more willing and able to expand their productive capacity, growing aggregate supply. Providing infrastructure often involves public sector investment, but some projects have been financed through public-private partnerships (PPPs).

3. Increased access to natural resources grows productive capacity and aggregate supply

Access to abundant natural resources provides a country with a potential to grow its productive capacity and aggregate supply. While the quantity of non-renewable natural resources is fixed and limited, their ‘known’ quantity, usefulness and efficiency can sometimes be increased by the following:

(a) Mineral exploration

Using exploration and new technology can help us find new deposits of minerals, sources of energy, and uses for natural resources.

(b) Land management

Lifting the productivity and sustainability of mining and farming practices can help grow rural and export capacity.

(c) Combatting climate change

If left unabated, climate change and severe weather events will reduce our productive capacity by destroying natural and capital resources. For this reason, it is essential that we have policies in place designed to reduce global warming. These might involve measures to put a price on carbon like a tax or an emissions trading scheme.

4. Lower business costs and better profitability grow productive capacity and aggregate supply

To survive and be able and willing to increase aggregate supply, businesses need to be profitable (i.e. their sales revenue must more than outweigh their costs and taxes). The after-tax profits of firms are affected by a host of aggregate supply factors.

(a) Wage and other on-costs of employing labour

Labour costs are generally the biggest production expense for most firms. These include payments to staff in the form of wages, salaries and on-costs (like sick and other types of leave, and compulsory superannuation charges) that impact on business competitiveness, profitability and survival. Government labour-market efficiency reforms and approaches by businesses can help slow **real unit labour costs (RULCs)**. By cutting costs, strengthening business profits and reducing closures, this encourages the expansion of a nation’s productive capacity and aggregate supply.

(b) Productivity or efficiency

Productivity refers to the output gained from a certain quantity of inputs, thus greatly affecting costs and profits. Productivity can be enhanced by improving skills, applying technology and using the latest capital

equipment in production, along with pay and other incentives. There is labour productivity (i.e. GDP per hour worked) and multifactor productivity (GDP per unit of all resources used).

(c) Interest rates or the cost of credit

The level of **interest rates** paid by business on their borrowed funds affects whether firms increase their investment in the new plant and equipment that is needed to grow productive capacity and aggregate supply.

(d) Cost of materials used in manufacture

The cost of buying raw materials like oil, steel, coal, copper or chemicals affects company profits and hence whether firms grow or shrink.

(e) Value of the Australian dollar and the cost of imports

Changes in the exchange rate used for swapping currencies and international transactions can affect the production costs and hence profits of local firms that need to purchase imported machinery and materials. In addition, the exchange rate can affect the competitiveness, sales and profits of local companies that export, again affecting the growth in productive capacity.

(f) Cost and adequacy of utilities

The level of charges for utilities, such as gas, water and electricity, greatly influence production costs, local competitiveness and business profitability, thereby affecting capacity and aggregate supply.

(g) New technology

The willingness and ability of firms to adopt new cost-cutting technologies in their production process can also impact on efficiency, costs, competitiveness and survival.

(h) Scale or business size

The size of a business can alter its average costs per unit. Bigger firms can make savings from large-scale production, where some costs like purchasing resources, advertising, management, equipment and R&D can be spread more thinly over a greater volume of output. In turn, lower average costs and better profits make firms generally more willing and able to grow their capacities, and thus help increase aggregate supply.

(i) Tax rates affect business survival, and the incentive to produce and expand

The tax rates on company profits and other incomes affect aggregate supply. Lower tax rates may reduce the number of business closures. They can also provide greater incentives for firms to invest and expand their operations, and for labour to work harder by increasing rewards. As a result, there should be a rise in productive capacity.

(j) Other government aggregate supply policies

Specific government aggregate supply policies can lift efficiency, lower business costs, increase profitability, boost productive capacity and grow aggregate supply. Here we might think of the following examples:

- Reductions in the level of government tariff protection increases foreign competition and encourages local firms to cut costs and use resources more efficiently.
- The payment of government subsidies and targeted industry assistance can boost aggregate supply (but not necessarily efficiency).
- The provision of efficient and adequate economic infrastructure like transport, water and power needed by firms, can affect their production costs and profits.
- High levels of government red tape in setting up and running businesses can discourage start-ups.
- Immigration can grow the supply of labour, slow wage costs, and reduce skills shortages.
- Environmental policies to mitigate climate change can encourage the growth of low-emissions industries (and discourage production in others).

2.7.3 Reviewing how changes in aggregate supply factors can affect the economy

In the *short term* where there is unused capacity available in the economy, a nation's level of economic activity (and therefore its material living standards) largely reflects changes in the level of *aggregate demand*. In other words, aggregate demand decides the extent to which the economy's available capacity is actually used. However, in the *longer term*, it is impossible to keep on expanding the level of economic activity and production simply by spending more and boosting AD. The economy soon hits its capacity limits. When this point is reached, further increases in national production depend on new, more favourable *aggregate supply conditions*.

Figures 2.16 and 2.17 summarise the effects on the level of economic activity of generally *more favourable* or *less favourable* aggregate supply conditions.

FIGURE 2.16 How more favourable aggregate supply factors can increase economic activity

Generally more favourable aggregate supply conditions	
Step 1 	Generally more favourable aggregate supply conditions for Australian businesses—including greater access to resources and better profitability (e.g. due to lower wage costs, fewer strikes, higher labour productivity, new mineral discoveries, increased immigration, lower oil prices, cheaper electricity, access to improved technology)—reduce the number of firms closing down and encourage more firms to expand their operations.
Step 2 	When businesses expand and new firms start up, this grows the nation's productive capacity and thereby increases the size of its PPF and potential GDP. The achievable level of aggregate supply is greater than before, allowing for a faster sustainable rate of growth in economic activity and a bigger economy.

FIGURE 2.17 How less favourable aggregate supply conditions can slow economic activity

Generally less favourable aggregate supply conditions	
Step 1 	Generally less favourable aggregate supply conditions for Australian businesses—including reduced access to resources and poorer profitability (e.g. due to an ageing population, severe weather events including drought and cyclones, fewer strikes, negative labour productivity combined with higher wages, new and higher taxes on business, dearer electricity, reductions in infrastructure projects)—increase the number of firms closing down and discourage firms from expanding.
Step 2 	When more businesses close down than open up, this cuts the nation's productive capacity or potential, thereby decreasing the size of its PPF. The potential level of aggregate supply is lower than before. This limits the sustainable rate of GDP growth and economic activity, and shrinks the economy.



Resources



Weblink Aggregate supply practice

2.7 ACTIVITIES

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

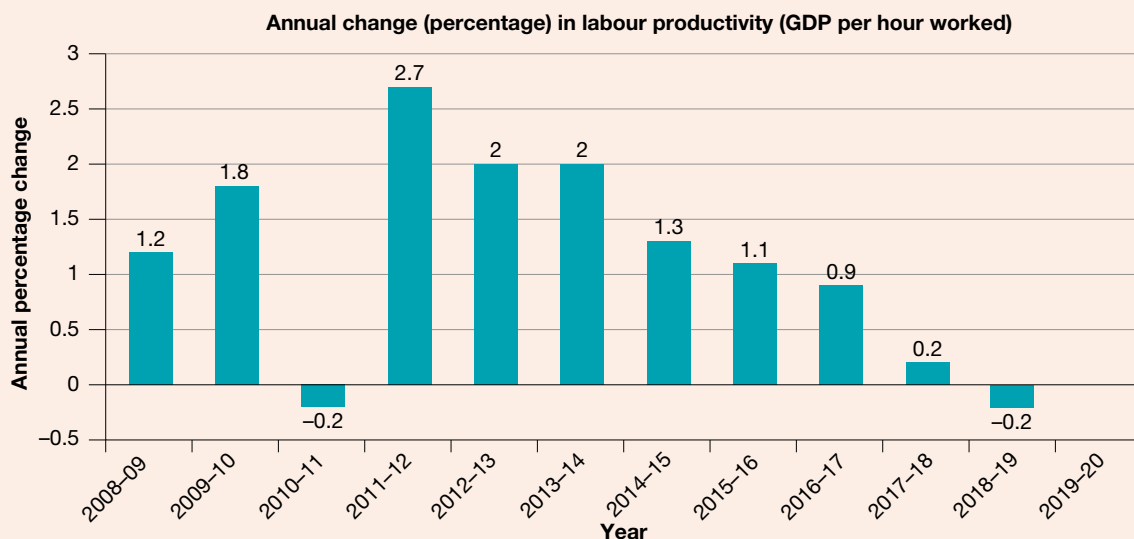
Check your understanding

1. Define the term *aggregate supply*.
2. What are the main determinants of the level of aggregate supply?
3. Explain how each of the following aggregate supply factors would be likely to affect a nation's productive capacity:
 - (a) a rise in costs of production for firms or falling profits
 - (b) an increase in the labour force participation rate
 - (c) weaker labour productivity
 - (d) a reduction in tax rates on individuals and companies
 - (e) the end of drought conditions
 - (f) a reduction in bankruptcy rates among businesses.
4. Explain how generally more favourable aggregate supply conditions would be likely to affect economic activity and other domestic macroeconomic economic variables.

Applied economic exercises

1. (a) Explain the meaning of *productive capacity* and identify the general influences on its level. **(2 marks)**
(b) Giving reasons, outline how any *two* of the following aggregate supply factors might tend to affect Australia's productive capacity, long-term sustainable level of economic activity and material living standards.
 - i. An increased labour force participation rate from 65 to over 70 per cent, as occurs in some Scandinavian countries.
 - ii. A slowdown in the adoption of ICT and other new technology.
 - iii. A \$100 billion boost to government investment spending on nation-building infrastructure projects like water, transport and power generation, as announced in 2019–20 budget.
 - iv. A general fall in business profitability.
 - v. Worsening drought, floods and climate change.
 - vi. An annual rise of 15 per cent in business investment spending.
 - vii. Shortages of skilled labour due to an ageing population.
 - viii. Relaxation of environmental controls and the abolition of the carbon tax on polluting industries, such as coal, power and mining industries (as in July 2014). **(4 marks)**
2. Examine figure 2.18 showing the annual change in worker productivity for Australia between 2008–09 and 2018–19, and answer the questions that follow.

FIGURE 2.18 Annual percentage change in Australia's labour productivity (measured by GDP per hour worked)

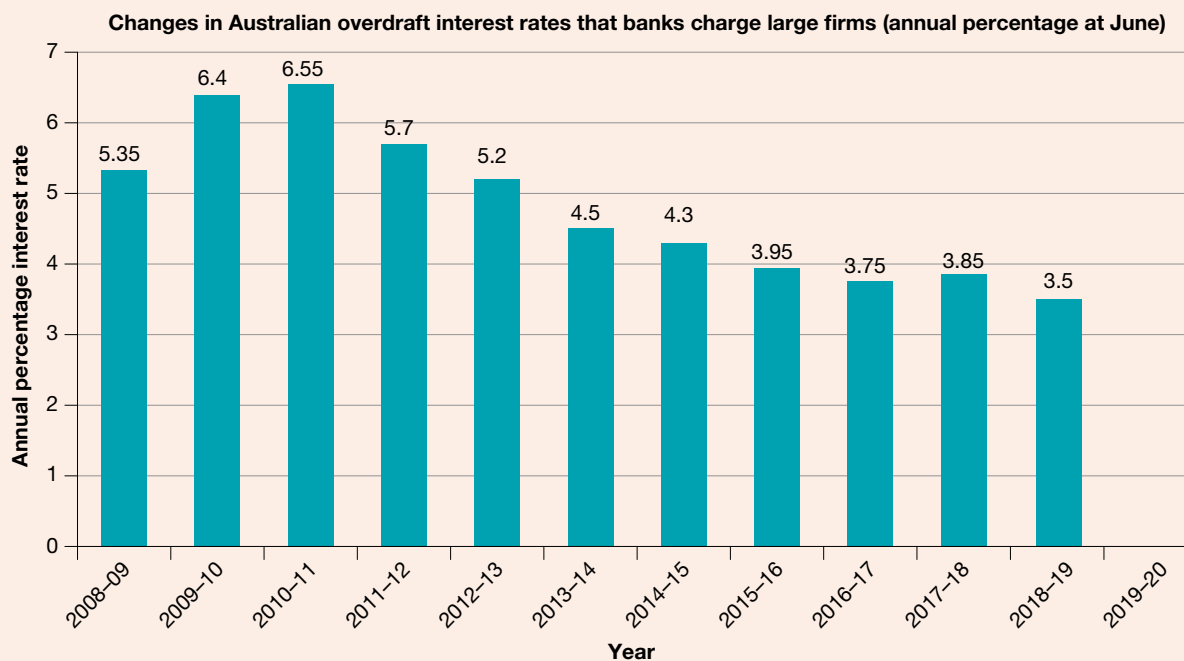


Source: Data derived from ABS 5206.0.

- (a) Explain how *labour productivity* is measured. (2 marks)
- (b) Identify and outline *one* important factor that could explain the recent trend in labour productivity between 2011–12 and 2018–19. (2 marks)
- (c) How would you expect the recent trend in labour productivity to 2018–19 to affect an economy's *productive capacity* and the *aggregate supply line*? Try to quote statistical data. (2 marks)
- (d) Explain how you would expect the recent trend in labour productivity to 2018–19 to affect the average level of *incomes* and *material living standards* of Australians. (2 marks)
3. (a) What do interest rates charged on loans represent? (2 marks)
- (b) Examine figure 2.19 showing changes in interest rates charged on loans to large Australian businesses. Explain how you would expect the overall trend in Australian *interest rates* on *business overdrafts* between 2010–11 and 2018–19 to have affected each of the following:
- aggregate demand and hence the short-term cyclical level of economic activity
 - aggregate supply and hence the long-term sustainable level of economic activity.

Note: In your answer, try to refer to a labelled AD–AS diagram to show the before and after situations of the change in overdraft interest rates. (4 marks)

FIGURE 2.19 Changes in Australian overdraft interest rates that banks charge large businesses (annual percentage at June)



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2.8 Using a diagram to show the effects of changes in aggregate demand and supply on domestic macroeconomic conditions

KEY CONCEPTS

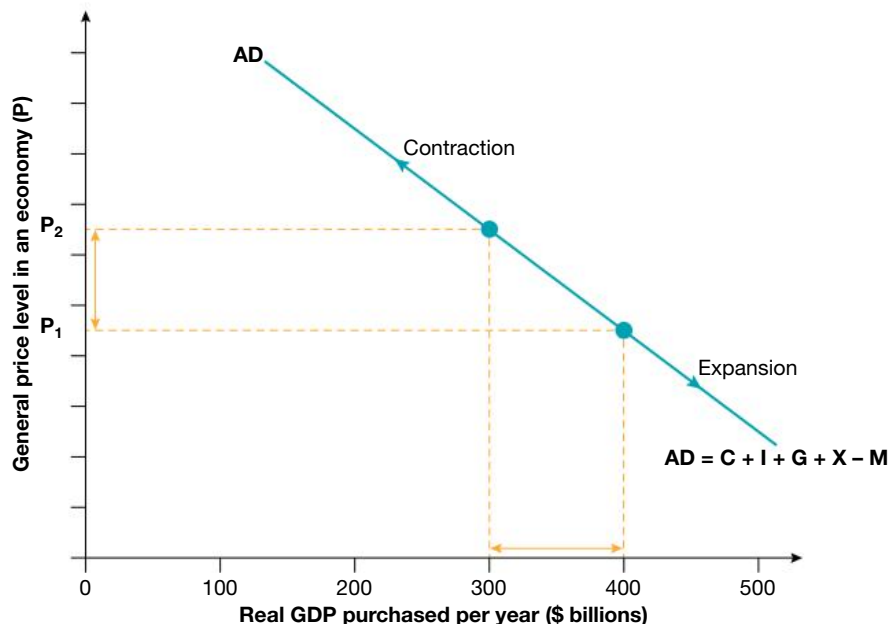
- the aggregate demand curve
- the aggregate supply curve
- the effects of changes in aggregate demand and aggregate supply on the level of economic growth, employment and price levels

We have looked at aggregate demand and aggregate supply separately, and examined how changes in a large number of macroeconomic factors or conditions can affect the level of economic activity and living standards, both in the short and long terms. A handy tool often used by economists, called an **aggregate demand–supply diagram** (illustrated in figures 2.20 to 2.25), allows us to study the interaction between these two forces at the same time, and to see the effects they have on a country's general economic conditions. Unlike the microeconomic demand–supply diagram used in topic 1 to show how the equilibrium price and quantity of a single good or service is determined in a particular market, the aggregate demand–supply diagram looks at how a *general equilibrium* is reached *nationally* across all markets, thereby affecting our key domestic economic goals including:

- the level of real GDP
- the levels of employment and unemployment
- the average level of prices or the inflation rate.

The downward sloping AD line in figure 2.20 shows that the value of real domestic production purchased contracts from, say, \$400 billion to \$300 billion as general prices rise from P_1 to P_2 . By contrast, national output purchased expands as prices fall.

FIGURE 2.20 The aggregate demand curve for the whole Australian economy.



These three domestic economic aspects will shortly be our focus. But for now, let us start to build the AD–AS diagram. When complete, the diagram will have several features, including the following:

- two axes: the vertical axis (representing the nation's average level of prices or the inflation rate) and the horizontal axis (showing the overall level of economic activity, measured by real GDP)
- an aggregate demand curve (drawn here as a straight line)
- an aggregate supply curve
- an equilibrium at the point of intersection for the AD–AS curves, which establishes the general price and output levels for the whole economy.

2.8.1 The aggregate demand curve

Aggregate demand (AD) is the total annual value of spending on Australian-made goods and services. It consists of $C + I + G_1 + G_2 + X - M$. When graphed, as in figure 2.20, the AD curve or line (sometimes drawn as a concave curve) for the whole economy has a negative slope. This line looks much like the demand line we drew for a single market except that here it represents the total level of all spending. This means that the overall quantity demanded (the amount of national output purchased each year, shown on the horizontal axis) *contracts* when there is a *rise* in the general price level (the national price level, shown on the vertical axis). Alternatively, *lower* prices cause an *expansion* in the quantity of national production demanded.

There are at least *three* reasons for this negative sloping aggregate demand line:

- *Purchasing power effect.* Generally higher prices throughout the economy eat into the purchasing power of people's nominal level of incomes, contracting how much they can afford to buy.
- *Import substitution effect.* Domestic inflation encourages Australians to buy cheaper or more competitive imports of goods and services, contracting spending on domestically produced goods and services.
- *Interest rate effect.* When average prices or inflation are higher, interest rates also rise. This makes borrowing money from banks more expensive, contracting spending levels.

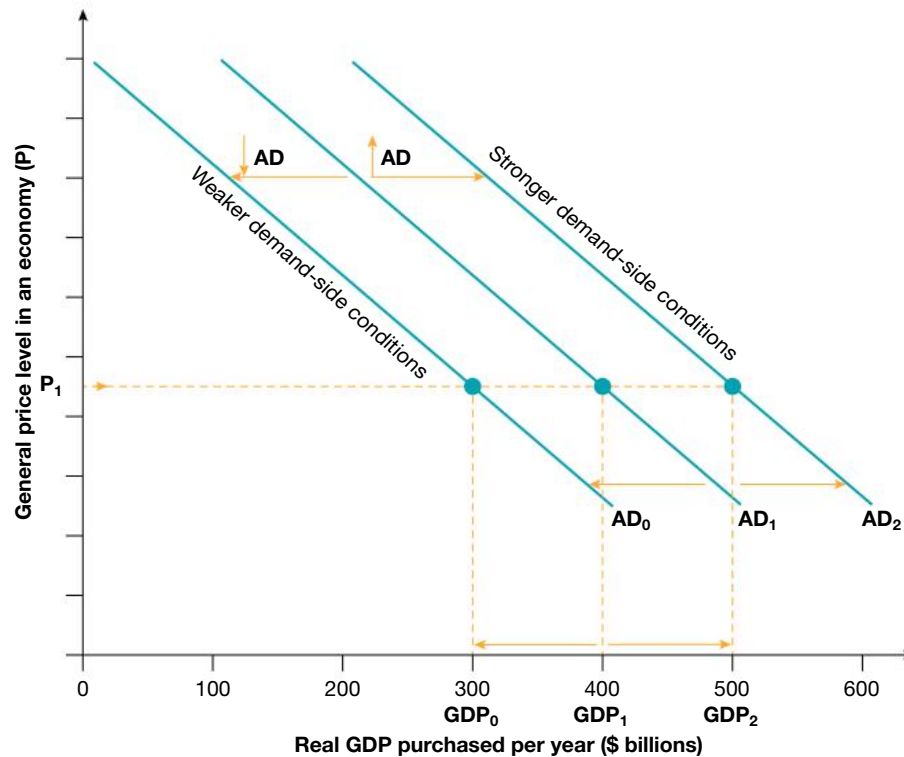
It was John Maynard Keynes who recognised the *instability* of AD, especially the volatile nature of savings, private investment and net exports. Over a period of time, people buying Australian-produced goods and services may increase or decrease their level of expenditure at a given price to reflect *new conditions of aggregate demand* (see subtopic 2.6). In figure 2.21, it can be seen that the national response to generally *stronger* demand-side conditions (such as greater business confidence and lower interest rates on credit) is that buyers are prepared to purchase larger quantities of local products at all price levels. This means that the whole AD line shifts out and to the right (an increase in total expenditure from AD_1 to AD_2).

Conversely, generally *weaker* macroeconomic or aggregate demand conditions (e.g. a recession overseas or lower disposable incomes) move the whole AD line out and to the left (a decrease in total expenditure at any given price level from AD_1 to AD_0).

As discussed in subtopic 2.6, changing *aggregate demand factors* (such as changes in consumer confidence, household disposable income, rate of population growth, business confidence, interest rates, government budgetary policy, economic activity overseas, the terms of trade and the exchange rate for the Australian dollar) can all alter the level of AD in an economy.

Having covered the aggregate demand line, it's now time to take a look at the economy's aggregate supply line.

FIGURE 2.21 How changes in aggregate demand conditions cause shifts in the position of the AD line.



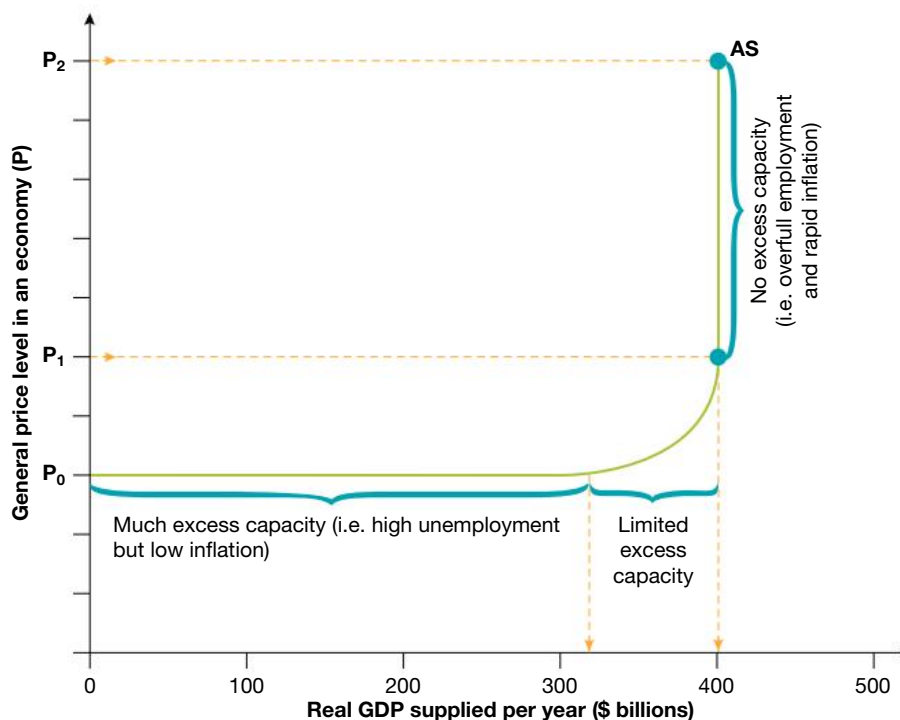
2.8.2 The aggregate supply curve

Aggregate supply is the total annual volume of Australia's output that firms are willing and able to supply or produce. When graphed, Australia's aggregate supply line or curve (AS) traces the relationship between the quantity of final national production that would be made available by suppliers at different general price levels. As expected, the overall slope of the aggregate supply line is positive sloping up and to the right. As shown in figure 2.22, the line has *three* sections to it:

- *Horizontal section.* The horizontal section of the AS line exists at low levels of national output or supply, where there is plenty of unused productive capacity. At this level of national production, firms would find it very easy to increase their production levels in response to little or no rise in the general level of prices.
- *Vertical section.* At the opposite extreme is the upper or vertical zone of the AS line, where there is generally no unused productive capacity. Here, real national production is at its physical limit because all resources are fully employed. Even large rises in the general price level and the offer of huge profits are not enough for an actual increase in the volume of national production. This is simply because firms cannot all get hold of the extra resources that they would require to further lift GDP unless more favourable aggregate supply conditions develop.
- *Intermediate section of elbow.* Between these extremes is the intermediate zone on the AS line, located at the 'elbow' where the line starts to bend upwards. This corner section indicates the gradual onset of full employment of labour and other resources, where the little excess capacity remaining soon gives way to no unused capacity at all. Moving upwards into this zone, bigger and bigger rises in average prices are needed to make extra production profitable and possible.

The AS line in figure 2.22 shows that the value of real domestic output produced is initially able to increase exceedingly quickly from \$0 to, say, \$310 billion following little or no increase in prices, because there is much excess capacity in the economy. However, from this zone onwards, larger and larger increases in price, from P₀ to P₁, are required to induce increased production to, say, \$400 billion as excess capacity

FIGURE 2.22 The aggregate supply line for the whole Australian economy



is absorbed. Beyond this point hyper-inflation may exist but further increases in production are impossible, because no more unused capacity exists: production remains at the capacity level of \$400 billion.

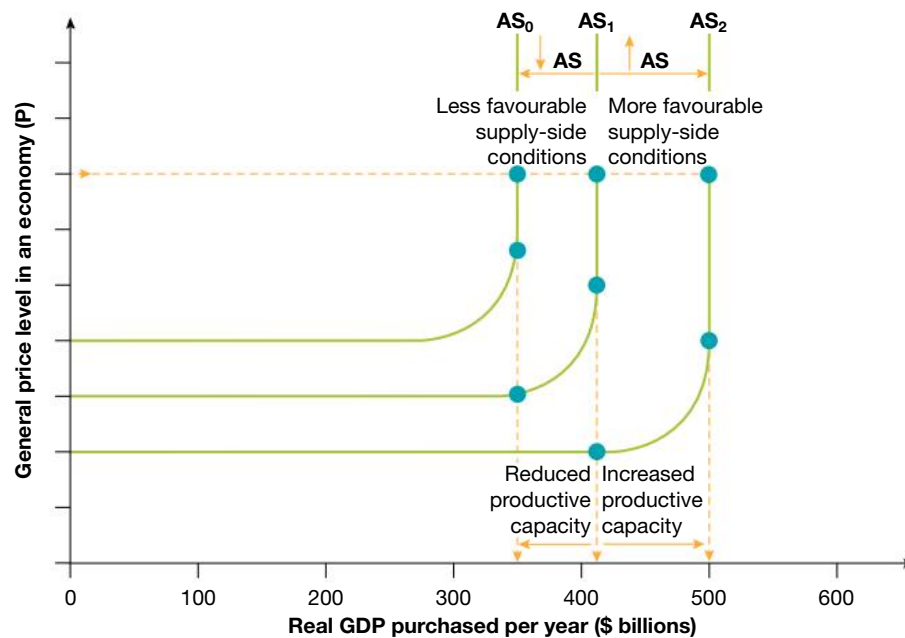
As you should now appreciate, the aggregate supply response of Australia's producers to rising prices depends on the level of unused capacity and whether there is access to extra resources. While firms would generally like to supply more as prices rise, at higher levels of activity their efforts are sometimes frustrated by production bottlenecks or constraints that limit national output.

Over a period of time, the *productive capacity* of the Australian economy changes, and with it, the size and position of the AS line. In this regard, *aggregate supply factors* are the main influence. We are already familiar with these factors (see section 2.7). They include changes in business production costs (such as changes in RULCs, tax rates, power charges and the price of raw materials) and profitability (influencing whether firms expand or close down altogether), along with changes in the quantity and efficiency of natural, labour and capital resources that are available (perhaps affected by labour force participation rates, labour productivity, industrial action, immigration, local and foreign investment levels, severe weather events and government microeconomic policies).

As shown in figure 2.23, the onset of generally *more favourable aggregate supply conditions* that improve national productive capacity cause the whole AS curve to increase or shift outwards from AS_1 to AS_2 .

Here, most firms become *more willing and able* to lift supply, increasing the potential level of GDP. By contrast, nationally *less favourable supply-side conditions* result in a decrease in the AS line that shifts inwards from AS_1 to AS_0 . Producers are *less willing and able* to produce at the general level of prices prevailing, and capacity is cut.

FIGURE 2.23 How changes in aggregate supply conditions can shift the position of the AS curve.



2.8.3 The effects of changes in the equilibrium level of domestic economic activity

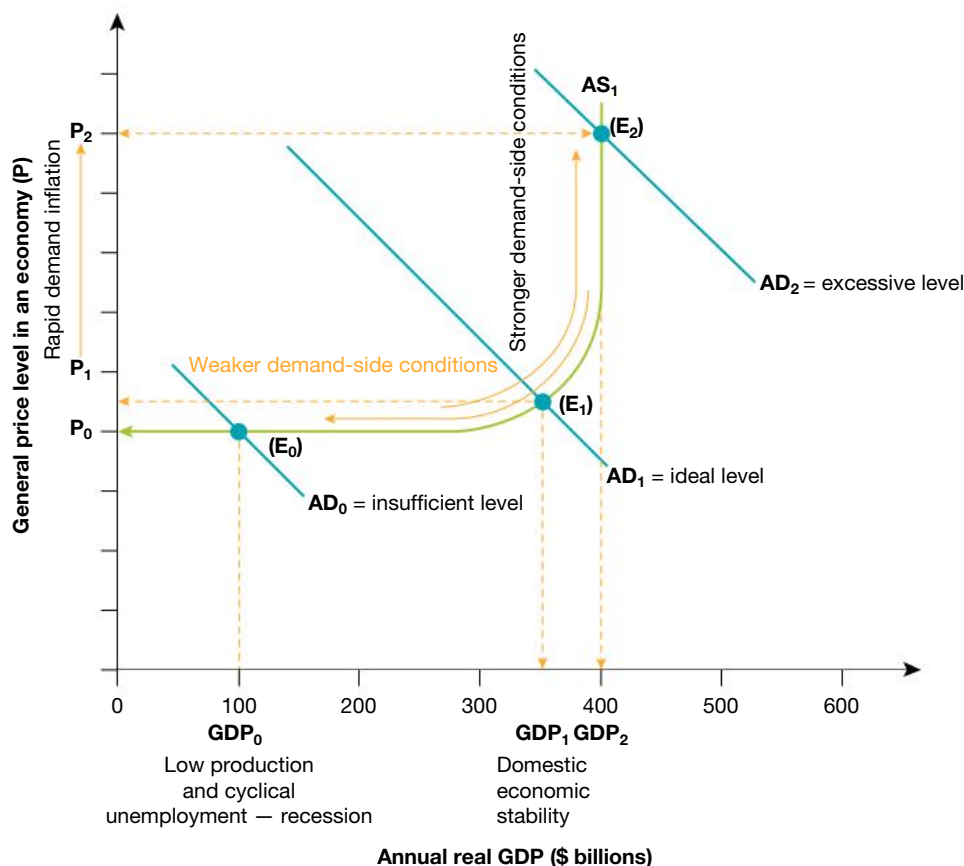
National economic conditions are volatile and change to reflect the levels of AD and AS. Sometimes these conditions show a cyclical pattern with periods of recovery, boom, contraction and recession. At other times there may be stagflation (low production, high unemployment and cost inflation). The cause of changes in all these economic conditions can now be illustrated on our complete AD–AS diagram.

Equilibrium can be changed by new conditions that shift the AD curve

Let us start by looking at the effects of changing levels of AD or spending. Whether economic activity is relatively high (perhaps leading to a boom), low (possibly causing recession) or ideal (leading to domestic economic stability) can depend on where the AD line actually crosses the AS line. Referring to figure 2.24 we can see that the actual position of the AD line reflects the changeable macro conditions of demand affecting expenditure on Australian-made production.

Notice how in figure 2.24 the AD line can change to intersect the AS line, creating different equilibria (E_0 , E_1 , E_2) levels of economic activity. An excessive level of AD (AD_2) causes an equilibrium (E_2) which produces serious inflation (P_2) or boom (where GDP_2 = about \$400 billion), while an insufficient level of AD (AD_0) causes an equilibrium (E_0) which produces extremely low levels of GDP (GDP_0 = approximately \$100 billion) with severe cyclical unemployment and recession. It is a matter of trying for the ideal level of AD (AD_1) and GDP (GDP_1 = about \$350 billion) where activity is neither too hot nor too cold — a situation of economic stability. This situation exists only when AD is at AD_1 and equilibrium at E_1 .

FIGURE 2.24 How changes in the level of aggregate demand can alter macroeconomic conditions.



Deficient AD and recession

If generally *weaker aggregate demand conditions* prevail for Australia (as happened between 2012–13 and 2018–19) and total expenditure is *deficient* at only AD_0 , this has *three* important macroeconomic effects:

- *Slower GDP growth.* The equilibrium level of economic activity (measured on the horizontal axis by real GDP) will decrease to just GDP_0 , perhaps causing a *recession*.
- *Higher cyclical unemployment.* Low or falling production means there is less demand for resources including labour, causing the level of cyclical unemployment to rise.
- *Lower demand inflation.* Weaker spending and hence higher levels of unsold stocks, lead to price discounting by sellers (to help clear these stocks) and hence a slower inflation rate of only P_0 .



Excessive AD and boom

At the opposite extreme, if *stronger aggregate demand conditions* caused expenditure to rise excessively to AD_2 (as happened during 2007–08), the new equilibrium located high up on the AS line, will cause our domestic macroeconomic conditions to again change in *three* important ways:

- *Maximum GDP growth.* Excessively strong spending growth would ensure that national production rises to its highest point at GDP_2 .

- *Very low cyclical unemployment.* Excessive spending that stretched national production beyond its limit (GDP_2), would increase the demand for resources including labour. As a result, cyclical unemployment would fall to very low levels and cause labour shortages.
- *Rapid demand inflation.* While high levels of production and low unemployment are often seen as good, the problem with this particular equilibrium is that there would be an inflationary *boom*. Because of excessive and unsustainable levels of spending, production would not be able to keep up and so the economy would overheat. Widespread shortages of goods and services would develop, causing rising prices and demand inflation. This is seen on the diagram by the hike in the price level to P_2 . Living standards would suffer due to the reduced purchasing power of incomes.

Ideal AD and domestic economic stability

Between the two extremes of deficient (AD_0) and excessive levels of spending (AD_2) shown in figure 2.24, there is an *ideal* pace of domestic economic activity. If aggregate demand conditions cause expenditure to be at AD_1 , *domestic economic stability* or bliss should exist. This has *three* main domestic impacts:

- *A strong and sustainable rate of economic growth.* With spending at AD_1 , equilibrium would occur at near maximum production (GDP_1). Here, economic activity is neither too hot leading to inflation, nor too cold causing recession.
- *Full employment.* When there is a strong and sustainable rate of economic growth (GDP_1), there would be a rise in the demand for resources including labour, leading to relatively low unemployment rates (called full employment).
- *Low inflation and prices.* When the pace of economic activity is neither too strong nor too weak, there would be no widespread shortages or surplus of goods and services, so it is likely that inflation or general prices would be quite low and stable (P_1). Here, conditions are such that our material living standards should be maximised.

Given that *domestic economic stability* creates conditions *optimal* for economic prosperity and improved living standards, the federal government and central bank (the Reserve Bank of Australia or RBA) use *macroeconomic policies* to steer the economy by manipulating the level of AD. (These macroeconomic aggregate demand instruments will be covered in topic 4.)

So much for the role of changes in macro demand-side conditions and AD in helping to decide the national level of economic activity (perhaps involving booms and recessions). However, this Keynesian aggregate demand-side explanation cannot account for the unique situation of *stagflation*. Nor can changes in AD shed much light on the determinants of Australia's long-term rise in economic activity. It is thus time to turn to aggregate supply-side explanations.

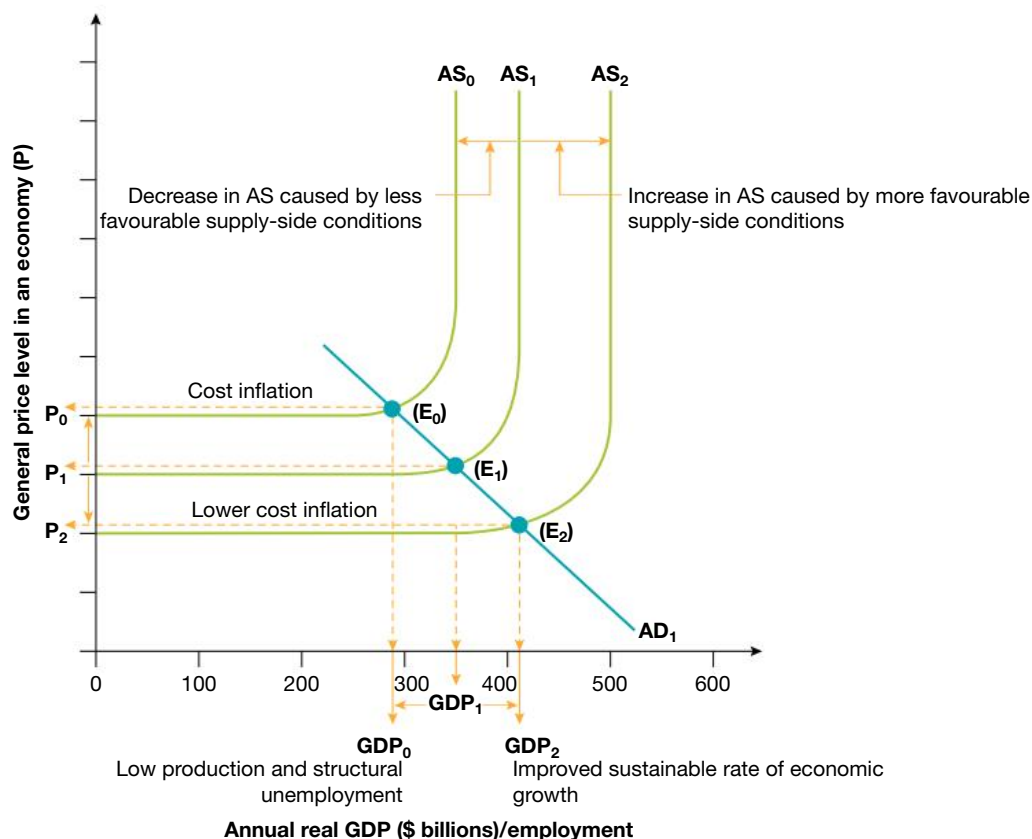
Equilibrium can be changed by new conditions that shift the AS curve

When using the aggregate demand–supply diagram, we have thus far assumed that conditions affecting the position of the AS curve have remained *fixed*. In the real world, however, this is not the case and from time to time, the position of the AS curve shifts. The question is, what happens on our diagram (as seen in figure 2.25) if *aggregate supply conditions* change, causing most Australian businesses to either supply more or less at a given price level?

The AS line seen in figure 2.25 can change as a result of increases and decreases in production costs, efficiency, resource availability and profits.

In turn, more or less favourable supply-side conditions cause the equilibrium (E) level of economic activity to change. At E_2 there is a non-inflationary growth thanks to better supply-side conditions — real GDP is higher ($GDP_2 = \$420$ billion) and prices (P^3) are lower than when equilibrium occurs at E_1 . At E_1 , there is stagnation, due to less favourable supply-side conditions — real GDP is lower ($GDP_2 = \$290$ billion) and prices are higher (P_1) than when equilibrium occurs at E_0 . For any economy, it is much better to bring about an increase in AS than a decrease in AS. This can be done by supply-promoting measures to cut production costs or boosting the availability of resources and profit levels.

FIGURE 2.25 How changes in the level of aggregate supply cause macroeconomic conditions to change.



More favourable aggregate supply conditions

Let us first assume that aggregate supply conditions improved and changed *favourably*, making producers keener and more able to increase their production, lifting capacity from AS_1 to AS_2 . Notice that there is a rise in the total quantity of goods and services supplied at all prices and the whole AS curve shifts outwards and to the right of the original line. There are three benefits of this:

- **Stronger and more sustainable rate of economic growth.** The new equilibrium (E_2) created as a result of generally more favourable conditions and an increase in AS (the shift from AS_1 to AS_2), means a rise in national output (the shift from GDP_1 to GDP_2). Although real GDP is higher, this is economically sustainable because the level of prices or inflation is actually lower.
- **Slower cost inflation.** As mentioned, more favourable supply conditions are often associated with lower production costs or better profits for businesses. If production costs are lower, firms can cut prices to make their products even more competitive. This causes the general level of prices in the economy to fall (the shift from P_1 to P_2), lowering cost inflation pressures.
- **Lower structural unemployment and more jobs.** More favourable aggregate supply conditions often lower costs and prices, thus making local businesses more competitive and profitable. This can mean that fewer firms close down and others expand more rapidly, in the long term reducing structural unemployment and creating more jobs.

All up, more *favourable conditions* that increase AS mean an improvement in *domestic economic stability*, prosperity and material living standards.

Less favourable aggregate supply conditions

What if aggregate supply conditions became *less favourable* and producers were not as willing or able to increase capacity or the total supply goods and services at various price levels? Supply would decrease from AS_1 to AS_0 , causing the problem of *stagflation* and a general deterioration in macroeconomic economic conditions in *three* ways:

- *Lower or stagnant levels of GDP.* The fall in aggregate supply would cause real production levels to stagnate or decrease (the shift from GDP_1 to GDP_0).
- *Rising cost inflation.* A typical cause of the decrease in aggregate supply is less favourable conditions for businesses such as rising production costs and/or falling business profits. These conditions usually force most firms to lift their prices, accelerating cost inflation (the shift from P_1 to P_0).
- *Rising structural unemployment.* With weak or negative economic growth, rising production costs and falling profits, some firms will close down and workers will lose their jobs. Structural unemployment will then rise.

The solution to the worrying problem of *stagflation* is to implement government aggregate supply policies designed to improve supply-side conditions. We will investigate these measures later in topic 5.

2.8.4 Applying the AS–AD diagram to government policy

In Unit 4 of this course (topics 4 and 5), our attention will focus on how the Australian government may deliberately manage the level of economic activity. Here, its aim is to improve economic stability (i.e. simultaneously promote strong and sustainable economic growth, low inflation and full employment) and, ultimately, make society better off. There are *two* approaches used by the federal government as part of its policy mix to grow economic activity over time at an optimum rate:

1. *Aggregate demand or macroeconomic policies* (including the federal budget and the actions of the Reserve Bank of Australia or RBA to influence interest rates) are used to try to steer the level of national spending and economic activity to help maximise living standards. This is not an easy task, but AD needs to be controlled so that it is neither too strong (causing inflationary booms) nor too weak (causing recessions and unemployment).
2. *Aggregate supply policies* often seek to improve aggregate supply conditions. They focus on increasing efficiency and productive capacity, and boosting AS. As a result, economic growth, becomes more economically and environmentally sustainable in the long term.

The effects of using these policies to deliberately manipulate the level of aggregate demand or to *grow aggregate supply* could also be shown on the AD–AS diagram. You might like to contemplate what would happen to the positions of the aggregate demand and/or supply lines if the government adopted the following policies:

- reducing company tax rates
- building more national infrastructure
- increasing interest rates set by the RBA
- progressively raising the pension age from 65 (2016) to 66 (2019) and then to 67 (by July 2023) and possibly even to 70 years (by 2035).



Resources



Digital document Figure 2.26 is available in Word format in this topic's student resources tab (doc-19063)



Weblink What are aggregate demand and aggregate supply?

2.8 ACTIVITIES

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Check your understanding

1. What is the AD–AS diagram and what does it show?
2. Define the following terms related to the AD–AS diagram:
 - (a) Aggregate demand
 - (b) Aggregate supply
 - (c) Equilibrium level of economic activity

(d) An increase and decrease in aggregate demand

(e) An increase and decrease in aggregate supply

3. Explain the shape of the AS line.

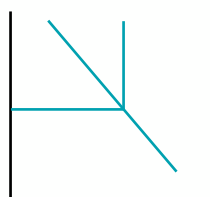
4. Be able to use the AD–AS diagram to illustrate the main types of economic conditions that can exist in an economy.

Applied economic exercises

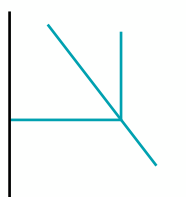
1. (a) Draw and label an AD–AS diagram where the economy is experiencing *domestic economic stability*. (1 mark)
(b) Draw and label an AD–AS diagram where the economy is experiencing an inflationary *boom*. (1 mark)
(c) Draw and label an AD–AS diagram where the economy is experiencing a severe *recession*. (1 mark)
(d) Draw and label an AD–AS diagram where the Australian economy is originally experiencing *domestic economic stability*. Next, on this same diagram, show and label the effects of a serious *recession* overseas in China and the United States, and a drop in our terms of trade. (2 marks)
(e) Draw and label an AD–AS diagram where the Australian economy is originally experiencing *domestic economic stability*. Next, on this same diagram, show and label the effects of a *rise* in Australia's level of *business confidence* from 90 to 130 points. (2 marks)
(f) What is *stagflation*? Show the onset of this situation on an AD–AS diagram. (2 marks)
(g) Why is it important for AD to rise at a rate that is matched equally by the rise in AS? (2 marks)
2. Download a copy of figure 2.26 from the Resources tab. Complete and fully label each of the AD–AS diagrams representing the Australian economy in figure 2.26 to show the hypothetical effects of an event that alters the macroeconomic conditions of either aggregate demand or aggregate supply, and hence the economy's equilibrium level of prices and GDP. In most cases, you will need to add a second AD line (AD_2) and/or a second AS line (AS_2), along with a new equilibrium price (P_2) and real GDP (GDP_2). (9 marks)

FIGURE 2.26 Aggregate demand–supply diagrams

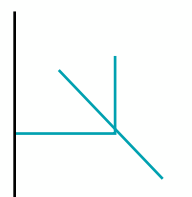
1. The consumer confidence index falls to 86 points



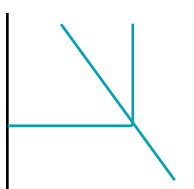
2. Labour productivity grows by 3.2 per cent on the previous year



3. Interest rates on personal loans and overdrafts fall



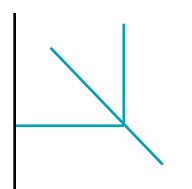
4. Australia's terms of trade index finally starts to rise



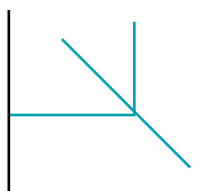
5. The rate of company tax is reduced



6. The drought affecting Northern Australia finally ends



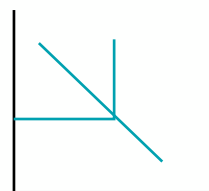
7. RULCs falls by 1.8 per cent on the previous year



8. The exchange rate for the Australian dollar falls 15 per cent



9. The federal government switches from a budget deficit to a budget surplus



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2.9 The goal of low inflation (price stability)

KEY CONCEPTS

- the meaning of the goal of low inflation (price stability)
- measurement of the inflation rate using the Consumer Price Index (CPI) including the difference between the headline and underlying (core) rate of inflation
- causes of inflation including demand and cost inflation
- consequences of a high inflation rate: erosion of purchasing power, redistributive effects, resource misallocation, savings and investment and international competitiveness

Earlier in this topic we studied the macro aggregate demand and supply determinants of a nation's level of economic activity. We also saw that changes in the pace of economic activity affects *three* important domestic macroeconomic outcomes:

- the rate of economic growth
- the employment and *unemployment* rates
- the rate of *inflation*.

Indeed, these key indicators of our economy's performance, give rise to the Australian government's *three core domestic macroeconomic goals* that will be studied in the remaining pages of this topic. In reviewing each of these areas, we should also consider their recent impacts on our overall wellbeing or living standards.

One of Australia's central macroeconomic priorities is the *goal of low inflation* (sometimes also called *price stability*).

When the levels of spending and economic activity are too strong, boom conditions can occur, leading to increased inflation. In turn, inflation poses risks. It undermines the purchasing power of wages and erodes the living standards of ordinary families.



2.9.1 Defining the goal of low inflation

Inflation occurs when the prices of most goods and services are rising (as opposed to the reverse situation, *deflation*, when prices are generally falling). During times of inflation, most things become dearer to buy and money gradually loses its **purchasing power**. Most people see inflation as something to be avoided.

The government's, or more precisely, the Reserve Bank of Australia's (RBA), **goal of low inflation** is achieved when general consumer prices for goods and services are increasing fairly slowly within the current target range of 2–3 per cent a year average, over the duration of an economic cycle — a rate that is consistent with achieving other government macroeconomic goals. Indeed, the RBA's main responsibility is to keep inflation within this range. What this means is that inflation may be a bit above the target in some years, while in others it might be a bit lower. It's the average that counts.

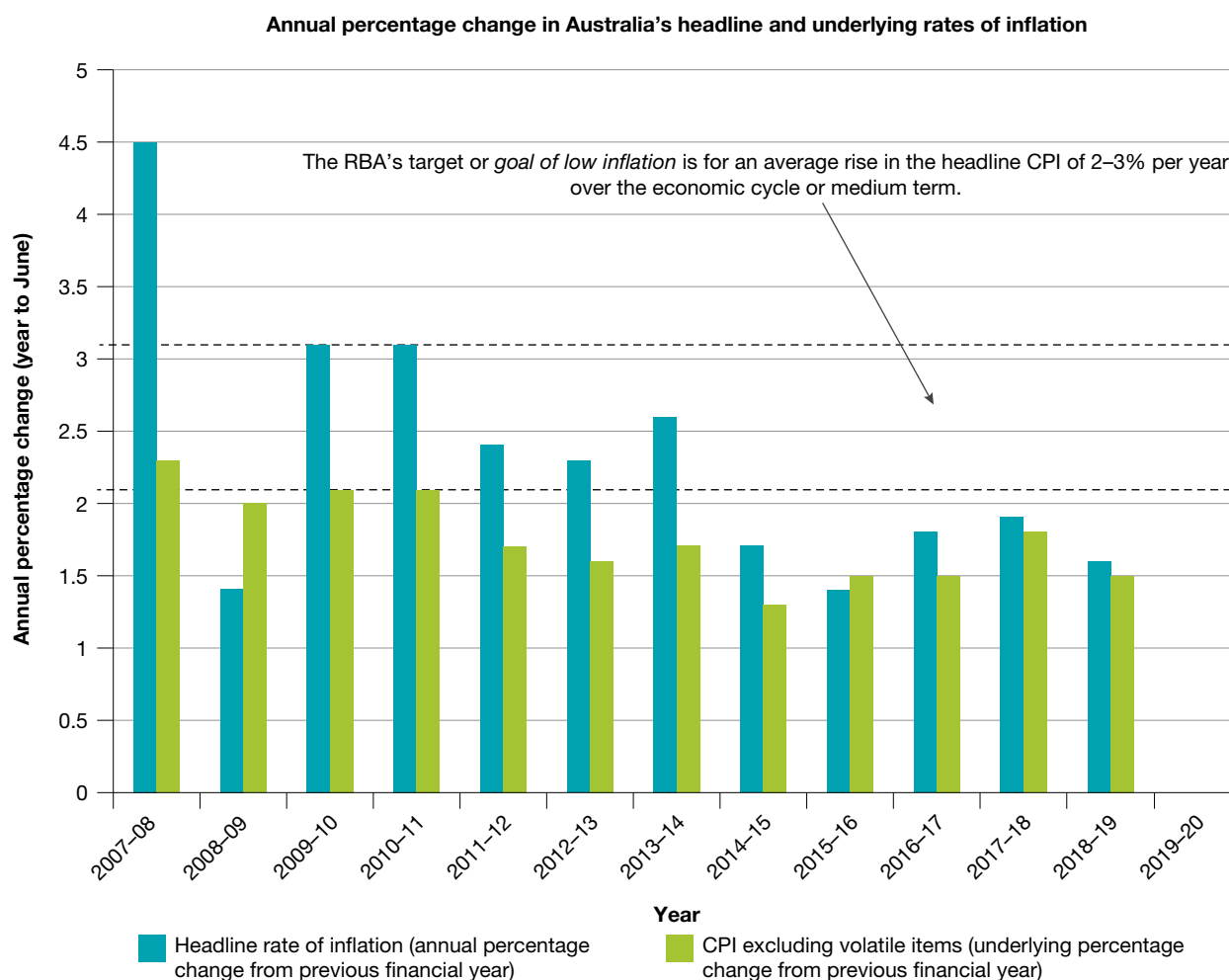
Low inflation does *not* mean that inflation should be zero. The reason is simple. Zero inflation would be inconsistent with the achievement of Australia's other domestic economic goals. For example, very low inflation would require a really slow level of economic activity, resulting in weak economic growth and high cyclical unemployment. In reverse, setting an inflation target above 2–3 per cent a year would also undermine the achievement of other government economic goals.

Low inflation helps to create general conditions in which other government goals (and ultimately improved living standards) are more likely to be achieved, so perhaps you can see why many economists regard the achievement of low inflation as the most important domestic economic aim.

2.9.2 Measuring the inflation rate

There are a number of measures of consumer inflation compiled by the Australian Bureau of Statistics (ABS) and the RBA. The *two* we will focus on are the headline consumer price index (CPI) and the underlying or core measures of inflation. Trends in these measures are shown in figure 2.27. Notice that over the period 2007–08 to 2018–19, inflation has slowed to below the target rate.

FIGURE 2.27 Trends in Australia's headline and underlying inflation rates (annual percentage)



Sources: Data derived from ABS 6401.0, Table 2; RBA Statistics, Table G1.

The headline consumer price index (CPI)

The headline **consumer price index (CPI)** measures quarterly changes in the retail prices of both locally and foreign-made goods and services that typically represent a high proportion of the expenditure of metropolitan households (including employees, pensioners, the unemployed, employers) living in the capital cities. The CPI has the following important features.

Regimen

The **regimen** refers to the range of goods and services included in the basket whose prices are to be measured. The CPI measures the price changes of around 100 000 individual items that are subdivided into 11 categories, including food, clothing and footwear, housing, household contents and services, transportation, tobacco and alcohol, health, recreation, education, communication, and financial and insurance services. From time to time, the ABS reviews the composition of the regimen and the weighting of items. For instance, the revised regimen recently excluded previously included items like home mortgage costs, but the basket of items was modified to also include house prices (but not land), bank fees, home computers and software, and tertiary education fees.



Prices surveyed

The quarterly price survey is carried out in a representative range of metropolitan retail outlets spanning both the private sector (e.g. Coles, Myer, Kmart) and public sector (such as local council property rates).

Weighting of items

Each item in the regimen is weighted according to its relative importance in overall household expenditure. Things that are expensive or frequently purchased have a greater bearing on index trends (e.g. food, housing and transport) than items of less significance (such as education, alcohol and tobacco). Weights are usually reviewed every five years.

Base year

Price changes over a period of time are compared against the price or cost of the regimen in a representative starting period or *base year*. Recently, the base year for our CPI was changed to 2011–12 and this is given a value equal to 100 index points. For instance, in 2017–18 the CPI for Australia's eight capital cities was measured at 112.3 points, as against 110.2 in 2016–17. On this basis, there was a 1.8 per cent inflation rate (figure rounded) between 2016–17 and 2017–18. This annual rate of inflation was calculated as follows:

$$\begin{aligned}\text{Annual percentage rise in the CPI for 2017–18} &= \frac{\text{Number of points increase in CPI} \times 100}{\text{Value of the CPI in the first year}} \\ &= \frac{(112.3 - 110.2) \times 100}{110.2} \\ &= \frac{2.0 \times 100}{110.2} \\ &= 1.8\%\end{aligned}$$

The underlying inflation rate (the core inflation rate)

The inflation rate can be affected by many factors, making the headline CPI not well suited for some uses. It is so volatile that some feel it does not clearly expose the *persistent* or generalised sources of inflationary pressures in an economy. For this reason, the ABS measures of the **underlying inflation rate** (also called the *core inflation rate*).

The ABS prepares the *headline CPI excluding volatile items* to measure the underlying inflation rate. This is an index that simply reduces the size of the headline CPI regimen by excluding the prices of fresh vegetables, fruit, fuel, energy and perhaps other items. These items are excluded because their prices are affected by one-off or volatile events such as cyclones (e.g. Yasi, Marcia and most recently Debbie in 2017), droughts (e.g. 1996–2010, 2014–19), floods (e.g. Townsville in early 2019) and changes in some government policies (e.g. the rises in the rates of excise tax on tobacco, alcohol and fuel in recent budgets, and the imposition of the carbon tax during 2012–14).

The differences between the measures of headline and underlying measures of inflation

There are several key *differences* between the headline and underlying CPIs:

- *Different sized regimens or baskets of goods and services* — these indicators measure the prices of different baskets of goods and services. The headline CPI has a bigger regimen or basket of goods and services that includes the prices of over 100 000 items. However, the underlying CPI has a smaller regimen of around 80 000 items that removes volatile items like food and energy whose prices are affected by one-off events.
- *Different statistical results* — often, the statistics generated from the headline and underlying CPIs reveal different inflation rates. For instance, if the prices of volatile items are rising *faster* than other items due to one-off events, then the headline figure normally shows a *higher* rate than the underlying rate. However, in reverse, if the prices of volatile items are *falling*, then the headline rate will tend to be *lower* than the underlying rate.
- *Different uses* — the RBA often finds that the underlying CPI provides important additional information when it needs to make decisions about whether to increase interest rates to help slow persistent or core inflationary pressures. This is because raising interest rates to slow AD will usually have no useful impact in curbing underlying inflationary pressures that are caused by one-off events that are outside of those attributed to the economy (e.g. a cyclone or a rise in government excise tax that makes goods dearer). Some people are tempted to use the CPI to provide a guide to changes in the cost of living for households. On this count, while neither the headline nor the underlying CPIs are accurate indicators, the headline CPI provides a broader view of changes in living costs.

Some limitations of using the CPI as a measure of inflation

The CPI data provide a guide to general retail price trends in the Australian economy. However, the accuracy of the published inflation rate depends on several factors.

Prices are only those paid by metropolitan households

Only around 100 000 selected consumer goods and services that are typical of the items purchased by metropolitan households are included in the CPI basket. Figures for the inflation rate may therefore be misleading indicators for people who do not live in capital cities. In addition, the inflation rate represents the average of the eight capital cities.

Inappropriate weighting of items in the regimen for some households

For some categories of households, the weighting of items in the regimen may be inappropriate and unreflective of the actual pattern of household expenditure. For them, this makes the figures less useful. For instance, if meat prices went up and caused the CPI to rise faster, the inflation figure would be misleading for vegetarian households.

2.9.3 Causes and types of inflation

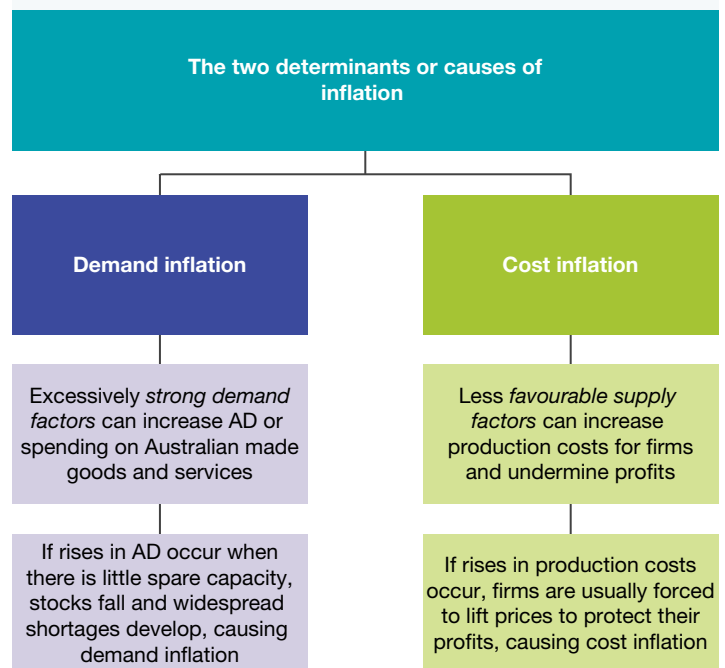
There are *two* main types of inflation, each *caused* by different factors:

1. *Demand inflation* is caused by excessively strong spending or AD in an economy, reflecting *aggregate demand factors* that are pushing up spending when there is little spare productive capacity available to lift output.
2. *Cost inflation* is caused by less favourable *aggregate supply factors* for businesses that cause a rise in production costs. These are then passed on to consumers in the form of higher prices so firms protect their profits.

These two causes of inflation are summarised in figure 2.28.

Let's take a closer look at these causes of inflation.

FIGURE 2.28 The two causes of inflation



Causes of demand inflation

Australia's rate of **demand inflation** accelerates and slows to reflect changes in the cyclical level of AD and economic activity. It moves up, especially in booms when AD (remember that $AD = C + I + G + X - M$) is excessive due to *strong aggregate demand conditions* when there is little or no unused productive capacity available. These aggregate demand factors that drive up spending might include:

- rises in consumer confidence
- strong levels of business optimism
- rises in disposable income per capita
- rapid population growth
- lower interest rates and bigger expansionary budget deficits
- stronger global economic growth amongst our major trading partners
- higher terms of trade.

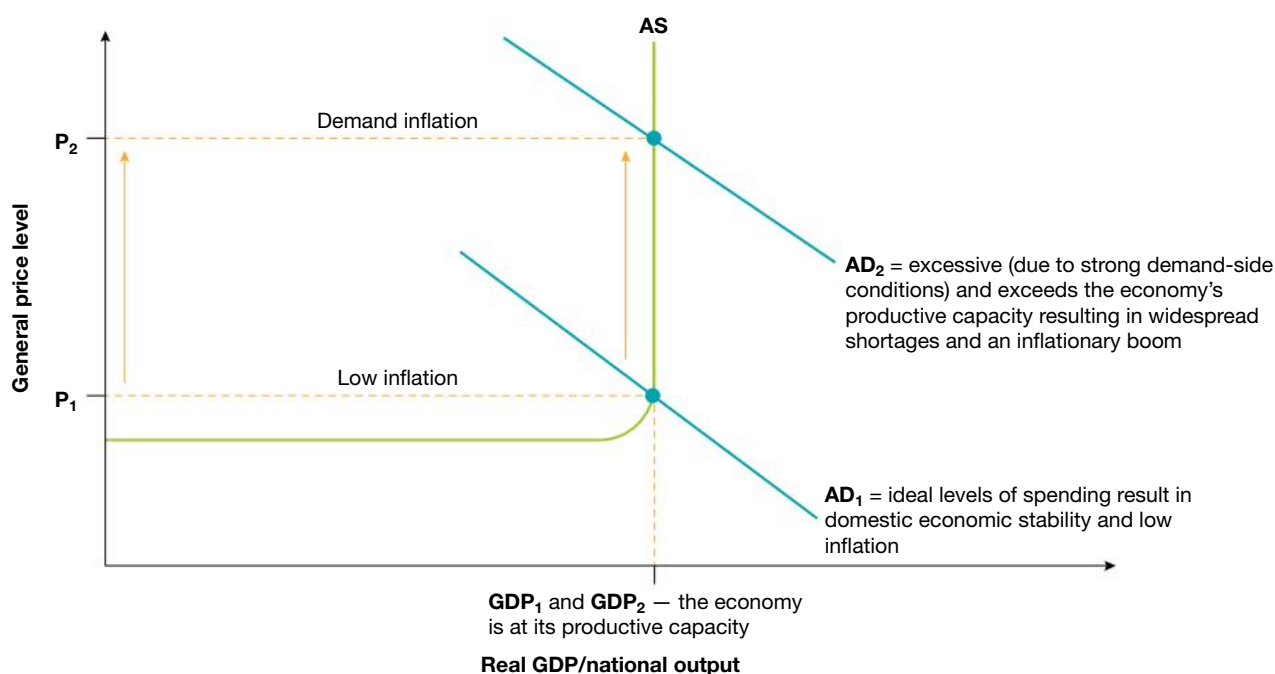
In a situation where spending (AD) is running ahead of national production (AS) in an economy near its productive capacity, demand inflation pressures are caused by falling stock levels, *widespread shortages* of goods and services, and the general inability of firms to significantly lift output. This erodes the purchasing power of incomes and hence undermines living standards.

In reverse, demand inflation disappears when spending and economic activity slow. There may even be *deflation* if there is a recession or depression. Here, generally *weaker aggregate demand conditions* cause unplanned rises in stocks of goods due to falling sales. In turn, this leads to widespread *price-discounting* by sellers, slowing demand inflation. Lower prices usually improve our purchasing power and material living standards.

Using the AD–AS diagram to show the effects of changing aggregate demand conditions on inflation

The development of boom or demand inflation pressures can be illustrated on an AD–AS diagram. Figure 2.29 shows that persistently *strong* aggregate demand conditions eventually cause the level of expenditure on Australian-made goods and services to become excessive (i.e. an increase from AD_1 to AD_2) and rise beyond the economy's productive capacity (at GDP_2), causing increased inflation (a rise from P_1 to P_2).

FIGURE 2.29 How excessively strong aggregate demand conditions cause excess levels of AD and widespread shortages, leading to demand inflation



By contrast, the onset of generally *weaker* aggregate demand conditions will slow expenditure (from AD_2 to AD_1), thereby easing general shortages of goods and services, promoting price-discounting and thus curbing demand inflation pressures (P_2 to P_1).

Causes of cost inflation

At various times, Australia experiences **cost inflation**. Put simply, cost inflation occurs when it costs firms more to produce or sell their goods or services. Rising production costs might include:

- higher wages and salaries for staff
- rises in the on-costs of labour like the superannuation guarantee levy and various types of leave entitlements
- elevated charges for electricity, gas, water and other utilities
- higher costs of transport (e.g. due to rises in oil prices or congestion) and telecommunications
- the prices paid for commodities and raw materials used in production like those for wool, oil and steel.

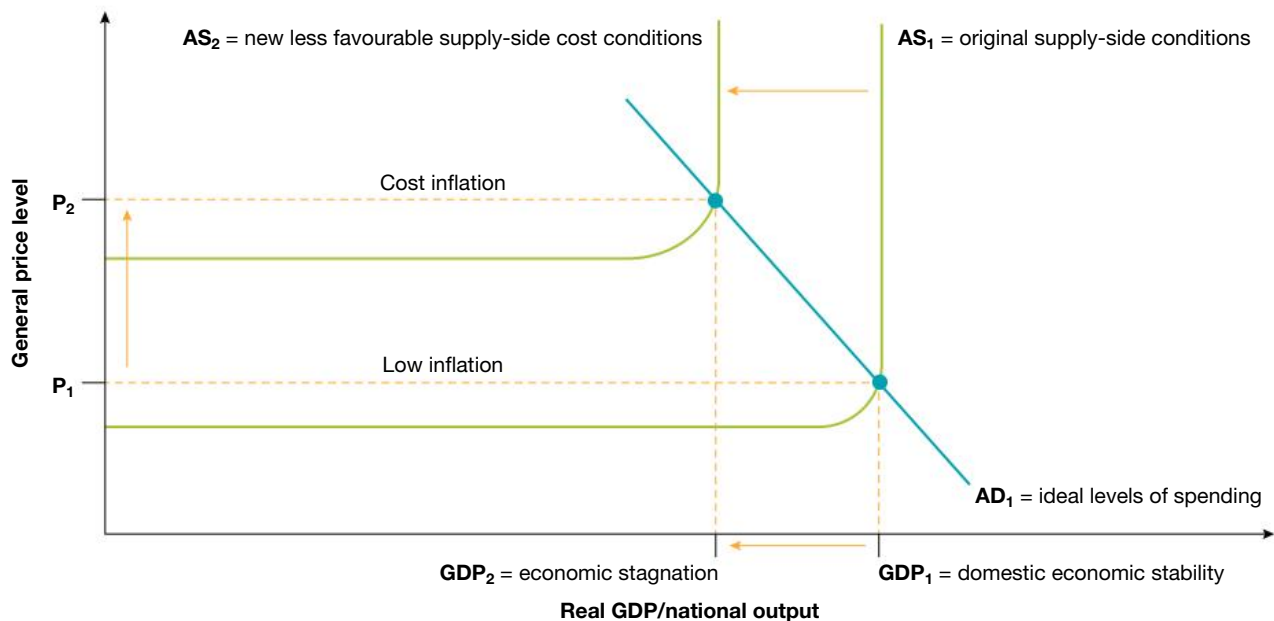
Here, the *rising costs* of purchasing resources are seen by firms as *less favourable aggregate supply conditions*. They eventually force businesses to pass these on to consumers in the form of higher prices at the counter. Failure to raise prices in response to higher costs would otherwise mean lower profits, losses or even business closures.

In reverse, *lower production costs* allow firms to reduce their prices to compete and still make good profits, thereby easing cost inflation pressures.

Using the AD–AS diagram to show the effects of changing aggregate supply conditions on inflation

The amazing AD–AS diagram can also be used to illustrate the onset of *cost inflation*. Figure 2.30 shows that the development of less favourable aggregate supply conditions (perhaps involving increases in production costs or other factors like higher taxes on businesses that shrink their profits), make businesses less willing or able to produce. This decreases the level of aggregate supply. There is an inward move of the AS line from AS_1 to AS_2 . The consequence of rising production costs and the inward shift of the aggregate supply line is higher cost inflation (shown by price rises from P_1 to P_2), along with reduced national output (production falls from GDP_1 to GDP_2).

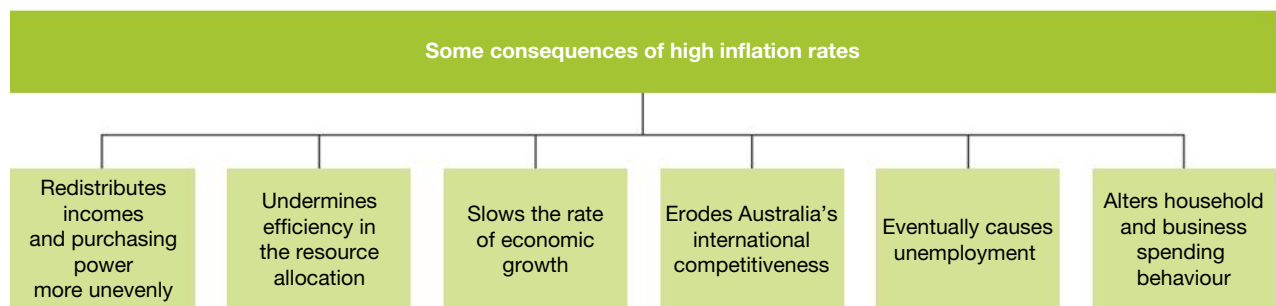
FIGURE 2.30 How generally less favourable aggregate supply conditions can cause higher production costs for firms leading to cost inflation pressures.



2.9.4 Consequences of high inflation

Rapid inflation (an average inflation rate above the 2–3 per cent per year target) is usually seen as unfavourable because it usually undermines the *achievement* of other *government goals*, ultimately eroding Australian *living standards*. Some of these consequences are summarised in figure 2.31.

FIGURE 2.31 The consequences of high inflation



Rapid inflation redistributes incomes and purchasing power more unevenly

Rapid inflation, or generally rising prices, changes the way incomes are distributed in the economy. It has different effects on various groups of individuals. A few people gain increased *purchasing power* and incomes, while the living standards of most people suffer. Consider these examples:

- *Fixed income earners* such as self-funded retirees (who fund their retirement themselves instead of receiving a pension), whose incomes often depend on fixed amounts of interest, find that they become poorer because their incomes do not keep up with rising prices. However, those whose incomes are upwardly flexible like speculators (those willing to take financial risk in return for larger gains), or workers who are in a strong wage-bargaining position, can end up with rising incomes and enjoy better living standards.

- *Exporters* become less internationally competitive, so their sales, incomes and living standards fall. Importers, however, may gain because of stronger sales and hence higher incomes.
- *Ordinary families* who have taken out a variable mortgage or home loan find that their housing affordability declines as rising interest payments take up a higher proportion of their family incomes. They must reduce their consumption of other goods and services, undermining their living standards. However, lenders of money at variable or market interest rates may find that their incomes rise.
- Some workers may become *unemployed* because inflation has caused local businesses to close due to weaker competitiveness against cheaper goods from abroad. As these unemployed people move onto welfare, they face greatly reduced incomes, purchasing power and living standards.

Given the negative effects of inflation on living standards for most people, it is no wonder that the Australian government and RBA try hard to pursue the *goal of low inflation*.

Rapid inflation can undermine efficiency in resource allocation

Resource owners often allocate their resources to try and maximise their incomes and returns. When there is inflation, the prices of shares, property and some other assets tend to rise faster than the general inflation rate. This often provides investors with good opportunities to make large capital gains, boosting their incomes and living standards. Inflation therefore tends to cause resources to be sucked out of more productive long-term uses (such as the expansion of business investment in plant and equipment) and redirected into more speculative investments that rise faster in value. This undermines efficiency in resource allocation, eventually slowing the long-term sustainable rate of economic growth and depressing living standards.

Rapid inflation erodes Australia's international competitiveness

Higher inflation rates in Australia relative to those overseas tend to damage the competitiveness of locally made goods and services against imports. Often, local sales suffer as consumers switch to the cheaper imported substitutes. The value of our exports too is likely to be down, because overseas consumers prefer to source their goods and services from countries where inflation is slower. This causes Australia's trade balance (the difference in value between exports and imports) to become less favourable, and may lead to a rise in the **current account deficit (CAD)** and even cause the exchange rate to depreciate or fall in value against other currencies. In turn, a lower exchange rate reduces our purchasing power and hence material living standards.

Rapid inflation can slow the rate of economic growth

Inflation has mixed effects on the rate of economic growth. On the one hand, excessive inflation is often the result of unsustainably rapid increases in the level of spending (AD) where there are widespread shortages of goods and services due to a lack of spare productive capacity. Sometimes, this can help to provide the incentive for business to undertake higher investment spending needed to increase capacity and the potential rate of economic growth. However, sometimes rapid inflation can undermine consumer and business confidence about the future, eventually slowing spending and possibly leading to a recession. In addition, inflation often



drives up domestic interest rates or the price of borrowing. In part, this is due to a tightening of monetary policy (involving deliberate rises in interest rates to slow spending) by the RBA to help check inflation. Higher interest rates then further undermine confidence, slowing credit-based spending, in turn depressing economic growth and material living standards.

Rapid inflation can eventually cause unemployment

Rapid inflation can lead to an increase in structural unemployment. One reason for this is that excessive inflation undermines the international competitiveness of Australian producers. For example, firms producing items for local and export markets, or competing against cheaper imports, are unable to maintain or expand their sales and market share. In turn, this depresses profits, slowing business expansion. This can cause business closures and higher rates of **structural unemployment**. In turn, unemployment causes lower incomes, depressing consumption per head and average material living standards. Another reason is that high inflation rates can eventually undermine confidence and slow spending, and thus depress the rates of economic and employment growth. Higher unemployment does not only reduce average incomes and material living standards, it can also diminish non-material living standards by reducing self-esteem, happiness, and health, while increasing family tensions and crime rates.

Rapid inflation alters household and business behaviour affecting saving, consumption and investment spending

Passing mention has already been made of the way that inflation rates can alter the behaviour and spending decisions of households and businesses. In particular:

- Inflation causes interest rates to rise, adding to the cost of borrowing credit and servicing debt. In turn, higher interest rates would encourage saving and discourage credit-based consumption and investment spending.
- Inflation tends to erode household and business confidence, eventually slowing consumption and investment spending, adding to unemployment, and eroding incomes, purchasing power and the general affordability of purchasing goods and services (e.g. housing).
- Inflation has a *wealth effect*. Rising prices for assets like property and shares make some richer people feel and appear to better off. As a result, they may actually spend more in the short term.



Resources



Weblinks

Inflation
Nominal vs real, unemployment and inflation
Inflation: 'Why play leap frog?'

2.9 ACTIVITIES

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Check your understanding

1. Define what is meant by the government's *goal of low inflation* (price stability).
2. Outline *three* key economic *effects* of high rates of inflation.
3. Identify and outline the *two* key measures of the inflation rate.
4. What is demand inflation and what factors might cause it to occur? Illustrate this on a fully labelled AD–AS diagram.
5. What is *cost inflation* and what factors might cause it to occur? Illustrate this on a fully labelled AD–AS diagram.

Applied economic exercises

- Examine the CPI data in table 2.2 showing trends in Australia's inflation rate, before answering the questions that follow.

TABLE 2.2 Trends in Australia's CPI

Measure	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
CPI at June (base year, 2011–12 = 100)	97.7	100	102.3	105	107.5	108.6	110.2	113.0	114.1	

Source: Data derived from ABS 6410.0 (Table 1).

- What is the consumer price index (CPI)? Outline how the ABS goes about constructing it. **(3 marks)**
 - Identify and briefly outline *two* important weaknesses of using the CPI as a measure of Australia's inflation rate. **(2 marks)**
 - Using table 2.2 above, calculate the CPI inflation rates for all years from 2011–12 onwards. Use the inflation rates you have just calculated to plot a graph showing changes in Australia's inflation rate. Using your graph, describe the trends in Australia's inflation rate from 2011–12, noting the extent to which the RBA has actually achieved its goal of low inflation (price stability). **(4 marks)**
 - Distinguish the *headline* inflation rate from the *underlying* rate. **(2 marks)**
- Explain *two* important differences between *demand inflation* and *cost inflation*. **(2 marks)**
 - Identify *four* factors (*two* aggregate demand and *two* aggregate supply factors) that influenced Australia's inflation rate during the past two years, and explain clearly their effects. In addition, try to illustrate and explain the impacts of these factors using two fully labelled AD–AS diagrams (each showing the *before* and *after* effects of the factor). Try to illustrate your explanation with examples and specific statistical evidence drawn from the past two years. **(8 marks)**
 - Explain how you would expect a *lower* inflation rate to affect *each* of the following:
 - The distribution of income between various groups making up Australian society and their living standards
 - The values of exports and imports
 - The allocation of resources between competing uses
 - The unemployment rate **(8 marks)**
 - Explain how any *two* of the following factors would be likely to affect the *achievement of the goal of low inflation* in Australia.
 - The 20 per cent depreciation of the Australian dollar between 2012 and 2019
 - A general fall in the average price paid for crude oil from over US\$100 per barrel to around US\$65 per barrel between 2013 and 2019
 - The impact of recent cyclones (e.g. Debbie in 2017 and the Townsville floods of January and February 2019) and the drought in northern and eastern Australia (e.g. 2017–18–19)
 - A fall in RULCs by 4.8 per cent during 2016–17–18–19
 - A slower rate of growth in labour productivity, as occurred in 2016–17–18–19
 - The progressive reduction in the company tax rate from 30 per cent to 26 per cent from July 2020 for small to medium-sized businesses
 - Higher commodity export prices as occurred during 2015–16–17–18–19 **(4 marks)**

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2.10 The goal of strong and sustainable economic growth

KEY CONCEPTS

- the meaning of the goal of strong and sustainable economic growth
- measurement of the rate of economic growth using real Gross Domestic Product (GDP)
- the reasons for pursuing strong and sustainable economic growth including lowering of the unemployment rate, growth in real income and increased ability of government to provide essential services

Strong and sustainable economic growth is a second domestic macroeconomic goal for the Australian government.

2.10.1 Defining the goal of strong and sustainable economic growth

Economic growth occurs when there is an increase in the level of national production of goods and services between one year and the next. The rate of economic growth is measured by the annual percentage rise in real gross domestic product (chain volume GDP).

The goal of strong and sustainable economic growth is defined as the fastest rate of growth in national production, averaging perhaps 3 per cent per year, that is consistent with achieving other economic and environmental goals.

Let us take a closer look at the *two* key elements of this definition.

- *A strong rate of economic growth.* This is defined as the fastest rate of increase in GDP that is consistent with achieving other government economic goals. Although targets change and depend on the circumstances, as a rough guide, an average rise in real GDP (chain volume GDP) by around 3 per cent each year (or possibly a little more) over the economic cycle is seen by some as a realistic target. At this speed, economic growth should normally allow other government economic goals to be well achieved (e.g. low inflation, full employment, equity in income distribution and improved material living standards). Put another way, if Australia tried to sustain a rate of economic growth that was too strong (perhaps at 4, 5, or 6 per cent a year), there would soon be severe economic problems and living standards would ultimately suffer. For one thing, if Australia's GDP grew too rapidly, the pace of national output would be pressed beyond the normal rise in productive capacity. Supply or production would not be able to keep up with demand or expenditure. At the other extreme, if Australia's rate of economic growth was too slow, perhaps at 1 or 2 per cent a year or less, some government economic goals would also not be achieved. The unemployment rate would soon rise, since there would not be enough jobs and incomes created for a growing labour force. Higher unemployment would then lead to poverty. Again, living standards would suffer unless economic growth occurs at the right speed.
- *Sustainability of economic growth.* In part, this term refers to ecological or environmental sustainability. Here, we are referring to the rate at which Australia's economy can grow its production of goods and services without jeopardising the living standards of future generations. The obvious problem is that our greed for non-renewable natural resources (water, minerals, forests, oceans and air) is creating severe environmental problems like pollution and global warming, resource depletion and loss of biodiversity. For instance, land clearing of old-growth forests, discharging waste into our waterways and the atmosphere, allowing property development in fragile ecological areas, building ever more freeways, and encouraging excessive consumerism and materialism may maximise our short-term living standards and extravagant lifestyles, but what will our children inherit from us? Will they be able to enjoy the same material and non-material living standards as us? So, the rate of economic growth is only ecologically sustainable in the long term if it does not deplete non-renewable resources, degrade the environment and reduce the ability of future generations to meet their needs and

wants. In some ways, a trade-off exists between strong economic growth and future living standards.

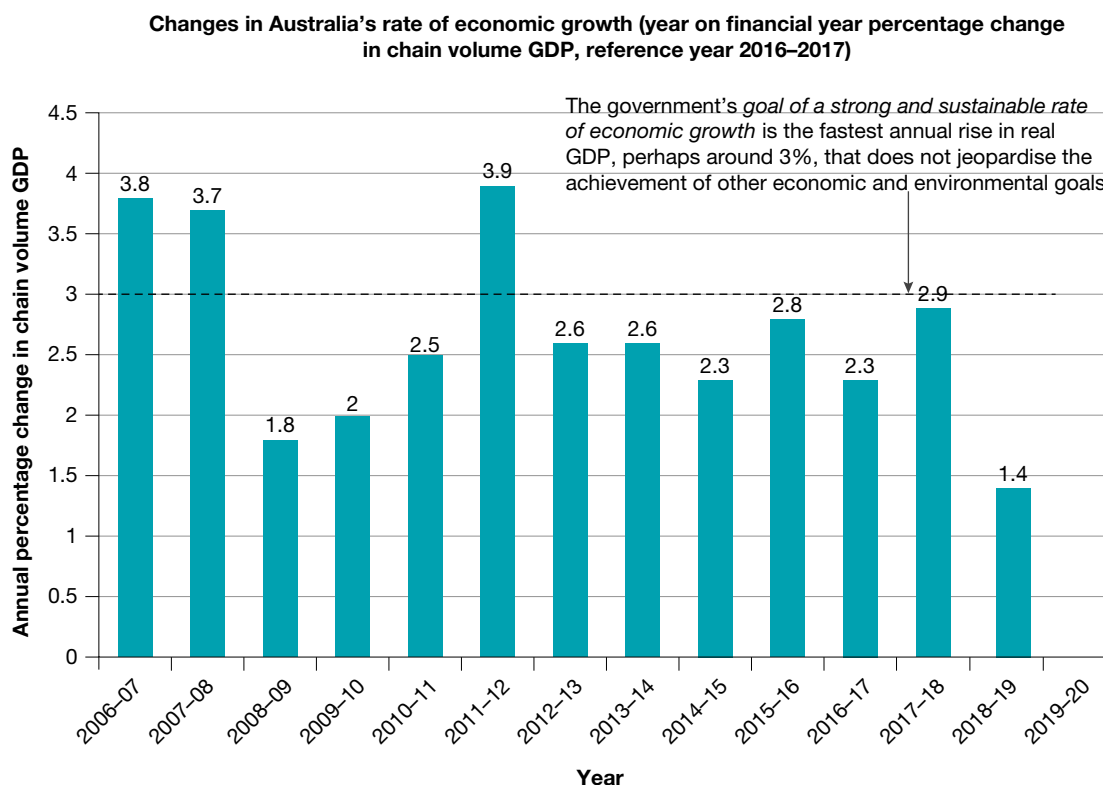
2.10.2 Measuring the rate of economic growth

As we shall see, measuring economic growth and living standards is a complex business, full of difficulties.

Calculating gross domestic product (GDP)

Economic growth occurs when there is a rise in the real value (volume) of finished goods and services produced in Australia between one year and the next. The most common indicator of the growth rate in national production is the annual percentage change in GDP (gross domestic product). Here, GDP estimates the annual value of goods and services produced or sold by a nation, after an adjustment is made to statistically remove the effects that changes in prices have on the value of production (this is discussed in more detail below). GDP figures are prepared by the ABS every quarter (at three-monthly intervals), and the four quarters can be combined to produce the annual rate of economic growth, as shown in figure 2.32. Notice that in recent years, the rate of economic growth has been relatively *weak* and below the government's 3 per cent target.

FIGURE 2.32 Changes in Australia's annual rate of economic growth (chain volume GDP)



Source: Data derived from ABS 5206.0 (Excel table).

Thinking back to the circular flow model of the Australian economy (see figure 2.5 in subtopic 2.5), it is possible to see that the value of goods and services produced or GDP (flow 4) can be estimated in *three* ways. This is because the model assumes that the three flows — total expenditure on production (flow 3 or AD), total incomes paid to those selling resources (flow 2) and total production (flow 4 or GDP) — are all equal in value. This being the case, estimates of GDP can be made using *three* different approaches.

1. GDP(E)

GDP should be equal to the total annual market value of expenditure (also called aggregate demand) on final goods and services produced in Australia. Here, expenditure on GDP consists of the annual sum of private consumption spending (C), plus private investment spending (I), plus government consumption spending (G_1), plus government investment spending (G_2), plus any change in unsold stocks, plus overseas spending on our exports (X) minus our spending on imports (M).

2. GDP(I)

GDP should also be equal to the total market value of incomes paid to those selling the resources needed for production. Incomes here include wages, plus salaries, plus supplements, plus the gross operating surplus or profits of firms.

3. GDP(P)

Additionally, GDP should be equal to the total market value of final goods and services produced each year. This is equal to the value added in production by all firms each year. Value added in production refers to the *total market value of sales minus the cost of all inputs purchased by firms*. Additionally, in special cases the annual value of production needs to be imputed or estimated because the output has not actually been marketed or sold. Examples include the value of accommodation provided by houses occupied by their owners, the value of farm output not sold but consumed on the farm, and the cost of providing some government services that are not actually sold to consumers for a market price. Even then, it is impossible to include all forms of production in GDP — that would simply be too complicated. Some things are therefore excluded from the GDP estimates, such as the value of illegal black market and non-traceable production involving the cash economy, home duties including parenting, and backyard do-it-yourself activities.

Calculating chain volume GDP and allowing for changes in price levels

Inflation (generally rising prices) and deflation (generally falling prices) affect the total market value of goods and services produced by the nation and hence influence the annual rate of economic growth between one year and the next. These circumstances can lead to a misleading impression of the actual size of the change in the volume or real value of goods and services produced each year, measured by GDP at market or current prices. Inflation would *exaggerate* the rise in the marketed value of goods and services produced and sold, while deflation would cause the market value of output to be *underestimated*. If nothing was done to compensate for this problem, our GDP figures would be almost meaningless in times when general prices were rising or falling. To correct this problem, the ABS statistically removes the impact that annual price changes would have on the value of production, measured at current or market prices, by using a measure called **chain volume GDP**.

Chain volume GDP takes account of the annual market value of expenditure on GDP and then uses special *chain price indexes* (a bit like the CPI) to deflate the figures (if there has been inflation) or inflate them (if there has been price deflation). These chain price indexes measure the average change in the prices of goods and services relevant to expenditure on GDP for the most recent year, against the prices that existed in a selected base year or reference year, where the price index is always equal to 100 points.

Unlike past ABS practice in adjusting GDP for price variations by having a base year that was seldom altered, the current approach is to use a changing reference year; that is, the year immediately before the current year. This reference year advances by one year, every year. Hence, in calculating chain volume GDP for 2016–17, the reference year for prices (measured by the chain price indexes) was 2015–16, while for GDP in 2017–18 the prices used were those that existed in 2016–17, and so on. One consequence of this is that previous GDP figures need to be revised every year. While this seems a bit complicated, all the ABS is attempting to do is to expose how the real value (in volume terms) of goods and services produced in Australia, has changed between one year and the next.

Figure 2.33 provides a simplified example of how this statistical adjustment process is applied to convert GDP at market prices to chain volume GDP (also called real GDP).

FIGURE 2.33 Using the chain price index to adjust GDP at market prices to chain volume GDP (real GDP)

Data for example	Year 1	Year 2
GDP at current or market prices	\$100 million	\$120 million
Chain price index (year 1 is the reference year for chain volume GDP in year 2)	100 points	110 points
Calculate the value of chain volume GDP for year 2 (i.e. real GDP)	\$100 million	\$\$\$ million
Procedure for adjustment to remove the effects of inflation on the value of GDP:		
Chain volume GDP for year 2 $= \frac{\text{Price index in the base of reference year}}{\text{Price index in the year to be adjusted}} \times \frac{\text{GDP at market prices in the year to be adjusted}}{1}$		
$= \frac{100}{110} \times \frac{\$120 \text{ million}}{1}$		
$= \$109.09 \text{ million}$		

Notice that after the adjustment process to remove the effects of a 10 per cent inflation rate (seen by the 10 point rise in the chain price index from 100 points to 110) on the value of GDP at market prices, the final result for chain volume GDP (real GDP or GDP at constant prices) was far more modest. Instead of GDP appearing to rise by \$20 million (or 20 per cent), it grew only by \$9.09 million, making the rate of economic growth 9.09 per cent.

Some limitations of using GDP as a measure of economic growth

Data relating to GDP are only estimations or ‘guestimations’ of the annual value of a nation’s output. While the statistics can provide a general indication of changes in economic growth, they are by no means totally accurate, and there are great limitations to what they actually tell us about the economy and our level of wellbeing. There are several reasons for this.

GDP is an underestimation caused by the exclusion of non-market production

The value of some types of non-market production is normally excluded from the GDP figures because its value is too difficult to calculate. Examples include illegal production as part of the black economy, production involved with the cash economy, along with household and individual or non-market activity such as home repairs, gardening, housekeeping, volunteer work and do-it-yourself activities around the home.

Some items included in GDP are imputed and subject to error

The value of some production that needs to be included in GDP must be estimated or imputed because it is not actually marketed or sold in the normal way, potentially reducing the accuracy of GDP as a measure of economic growth. For instance, this process applies to the value of farm output that is consumed on the farm, the net rental value of accommodation provided by houses to their owners, and the cost of providing government or public services that are subsidised or provided free of charge to the community.

Quality changes may not be reflected in the value of GDP

Quality changes in the goods and services produced between one year and the next are not always fully reflected in the changes in the value of chain volume GDP. In some cases, quality can increase while the price paid or value of production actually comes down (e.g. some cars, air travel tickets and computers), making the rate of economic growth appear less impressive than it is in reality.

Removing the effects of price changes from the value of GDP can involve error

GDP measured at market prices needs to be statistically adjusted to remove the *exaggerations* to the market value of national production caused by *inflation*, or the *under-estimation* caused by *deflation*. This process of converting GDP at *current prices* to GDP at *constant prices* in terms of a reference year requires the construction of an accurate chain price index. However, it is difficult to calculate such indexes so that they accurately and fully reflect changes in the prices of all goods and services entering GDP.

Some limitations of using GDP as a measure of overall living standards

Some people try to use the growth in chain volume GDP to indicate changes in both *material* living standards (i.e. the quantity of goods and services consumed by each person) and *non-material* living standards (the quality of life for each person). On its own, chain volume GDP would tell us very little about these aspects of our overall wellbeing, for several reasons:

Weakness of using GDP to indicate material living standards

- *Uneven distribution of national production and incomes.* Economic growth leads to increased production and consumption of goods and services. However, not all individuals, families, regions and groups benefit equally from economic growth because Australia has great income inequality. Some people benefit more than others.
- *Population size.* It is commonly asserted that the bigger a country's chain volume GDP and the faster its rate of economic growth, the better off people are materially. However, this would only occur if the rate of growth was faster than the rate of rise in our total population, in which case average GDP per capita would rise.
- *Changes in hours worked and leisure time.* As we have seen in recent years, economic growth may sometimes result from the labour force working longer hours. However, this reduces the amount of leisure time and perhaps the quality of family life, eroding non-material living standards.

Weakness of using GDP to indicate non-material living standards

- *Negative externalities.* Growing the size of GDP has created negative externalities or costs for third parties that lower society's material and non-material living standards. For instance, here we might think of pollution and environmental damage, resource depletion, stress, urban problems, overcrowding and the corruption of society's moral values by the relentless and seductive invasion of advertising and materialism.

For all these reasons, we are surely left thinking that GDP in itself tells almost nothing very useful about society's real living standards.

2.10.3 Causes of economic growth

Earlier in this topic we saw that there are *two* main macroeconomic determinants of a country's rate of economic growth:

- In the short term the *cyclical rate of economic growth* reflects the strength of *aggregate demand factors*. These largely determine the *extent* to which the economy's available productive capacity is actually used.
- In the longer-term, the *potential sustainable rate of economic growth* is determined by *aggregate supply factors*. These ultimately govern the economy's productive capacity that is made available.

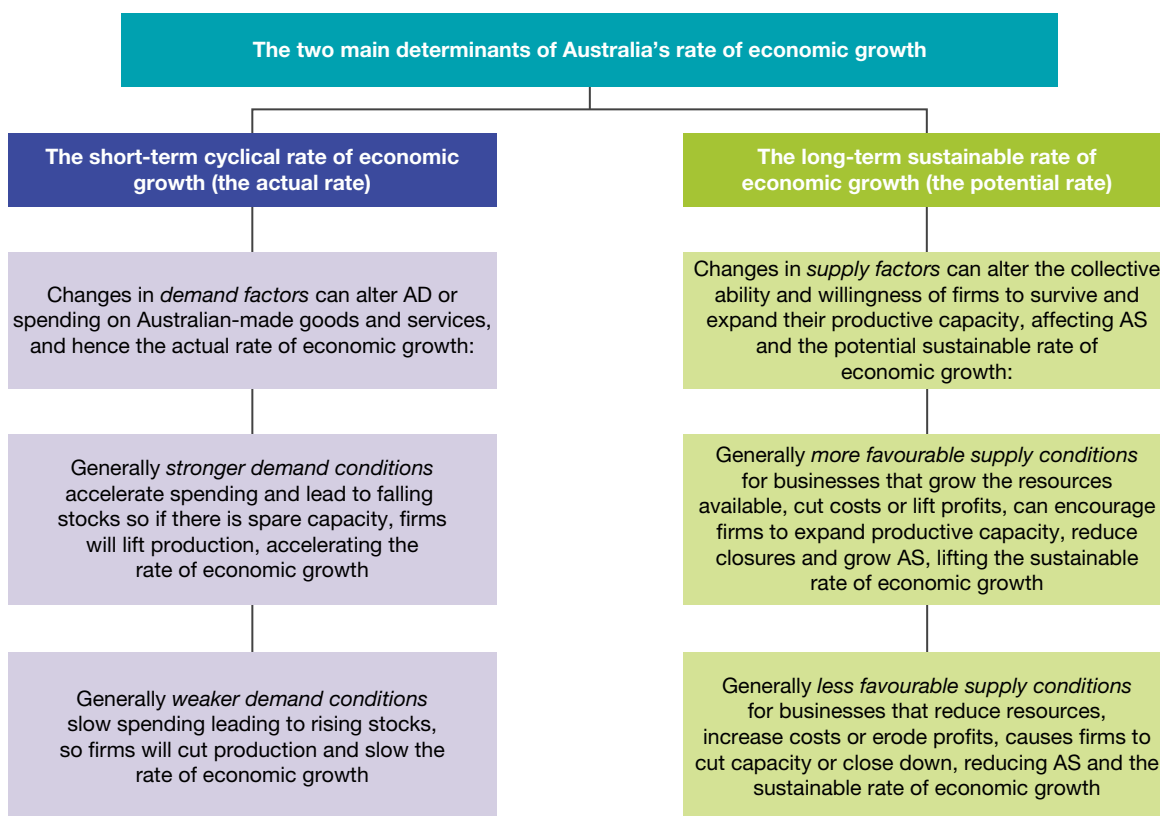
These two determinants of the rate of economic growth are summarised in figure 2.34.

The influence of aggregate demand conditions

As noted, Australia's rate of economic growth varies *cyclically* in response to volatile changes in aggregate demand-side conditions that affect the level of expenditure or AD ($C + I + G + X - M$). These conditions might include the following:

- variations in consumer confidence
- changes in business confidence
- a change in disposable income
- the rate of population growth

FIGURE 2.34 The two main determinants of the rate of economic growth



- changes in interest rates and monetary policy set by the RBA
- a change in the budget outcome (i.e. the size of the budget deficit or surplus)
- instability overseas in the rate of economic growth, especially among our trading partners such as China
- changes in the terms of trade (i.e. the ratio of export to import prices).

When these aggregate demand conditions are generally *stronger* and cause spending to grow faster, business stocks fall. To replenish these stocks and meet stronger sales and orders, firms will lift output (provided they have access to some unused productive capacity), thereby accelerating the rate of economic growth.

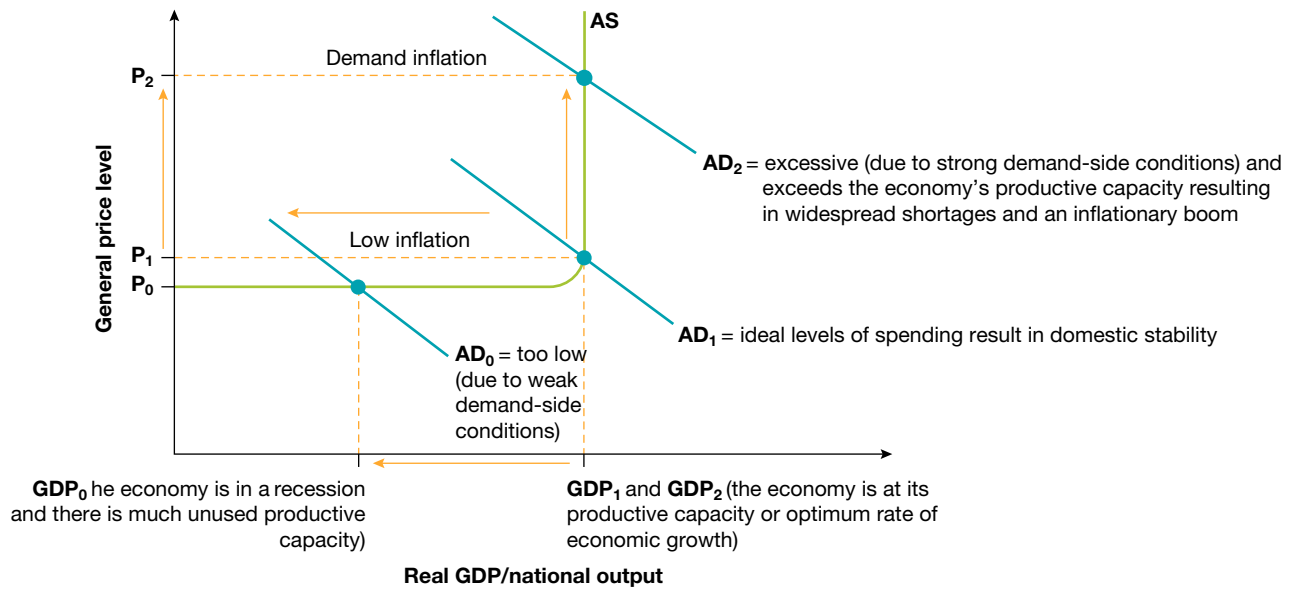
In reverse, mostly *weaker* aggregate demand conditions slow expenditure. The level of unsold stocks would then rise and new orders disappear. In this case, firms cut production and defer new investment spending, slowing Australia's rate of economic growth.

Using the AD–AS diagram to show the effects of changing aggregate demand factors on economic growth

We can again use the AD–AS diagram to illustrate the impact of changes in aggregate demand conditions and the level of AD on Australia's actual rate of economic growth. Referring to figure 2.35, the optimum rate of economic growth occurs when AD is sufficient to cross the AS line at the elbow. This level of expenditure corresponds with AD_1 . Notice that GDP_1 is close to the economy's maximum or potential. However, if demand-side conditions are *too weak*, falling expenditure to AD_0 causes firms to cut output to GDP_0 , slowing the rate of economic growth, perhaps resulting in a recession.

By contrast, if expenditure grows too *quickly* at an unsustainable rate and reaches AD_2 , *excessively strong* aggregate demand conditions cause the economy to be stretched beyond its capacity or ability to supply. Here, extra spending is not translated into increased economic growth. Instead, excessive expenditure only causes depleted stocks and widespread shortages, leading to demand inflation. This is seen by the rise in the general price level from P_1 to P_2 .

FIGURE 2.35 How changing aggregate demand conditions can affect the level of AD and thus Australia's cyclical rate of economic growth.



The influence of aggregate supply conditions

Changing aggregate supply conditions can also affect Australia's potential and sustainable rate of economic growth. They do this by altering the availability of resources, production costs, profits, the level of business expansion or closures, and the ability and willingness of firms to produce goods and services. There are a number of important aggregate supply conditions that can change and shift the position of the AS line:

- the level of staff wages and salaries, including changes in the minimum wage
- labour on-costs like the superannuation guarantee charge and various type of leave entitlements
- labour productivity (GDP per hour worked)
- R&D and the adoption of new technology in production
- the rate of business bankruptcy, versus that for new start-ups
- climate change and weather events
- the age distribution of the population (affected by the birth and death rates, and the rate of net migration)
- the labour force participation rate and the number of hours worked per week
- the cost of electricity, gas, water and other utilities
- changes in the adequacy of infrastructure and the costs of transport, electricity and communications
- changes in the exchange rate may affect the costs of imported resources and equipment used by local firms to produce goods and services
- variations in the cost of borrowing credit from banks by local businesses.

These aggregate supply factors can alter the economy's productive capacity or the sustainable speed limit at which AS or national output can grow:

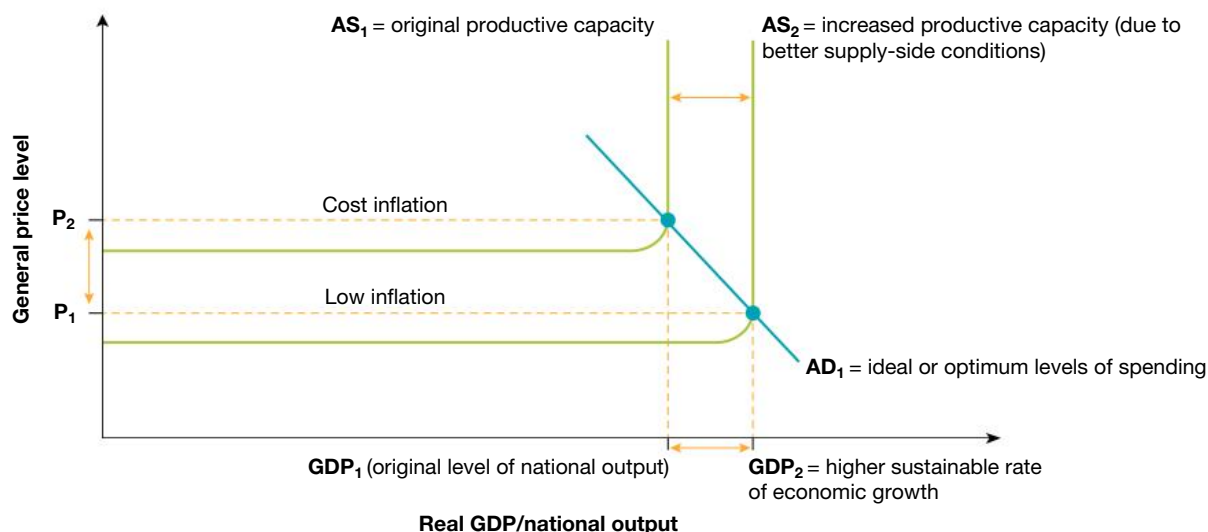
- When there are mostly better or *more favourable* aggregate supply conditions for business, firms become more willing and/or able to produce and expand.
- By contrast, generally *less favourable* supply conditions might slow the sustainable rate of economic growth.

Using the AD–AS diagram to show the effects of changing aggregate supply conditions on the sustainable rate of economic growth

The AD–AS diagram (see figure 2.36) can again be used to illustrate the effects of changing aggregate supply conditions on the long-term sustainable rate of economic growth. Notice that as a result of generally *more favourable* supply conditions, the aggregate supply line (AS) for the economy grows and moves

outwards and to the right from AS_1 to AS_2 . Notice, too, that the new equilibrium level for economic activity is now higher (GDP_2 not GDP_1), indicating increased economic growth. By contrast, generally *less favourable* aggregate supply conditions — such as higher production costs, lower profits, increases in bankruptcy rates and reduced efficiency — limit the economy's productive capacity (a shift from AS_2 to AS_1) in the long term, retard the sustainable rate of economic growth (GDP_2 to GDP_1) and accelerate cost inflation (P_1 to P_2).

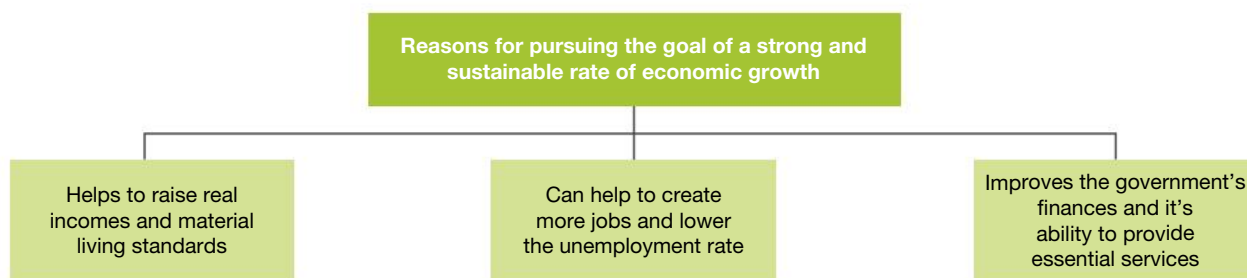
FIGURE 2.36 The effect of generally more favourable aggregate supply conditions that boost productive capacity, grow AS and increase Australia's sustainable rate of economic growth.



2.10.4 The reasons for pursuing strong and sustainable economic growth

There are sound reasons why the Australian government pursues the *goal of strong and sustainable economic growth*. These are summarised in figure 2.37.

FIGURE 2.37 Reasons for pursuing strong and sustainable rates of economic growth



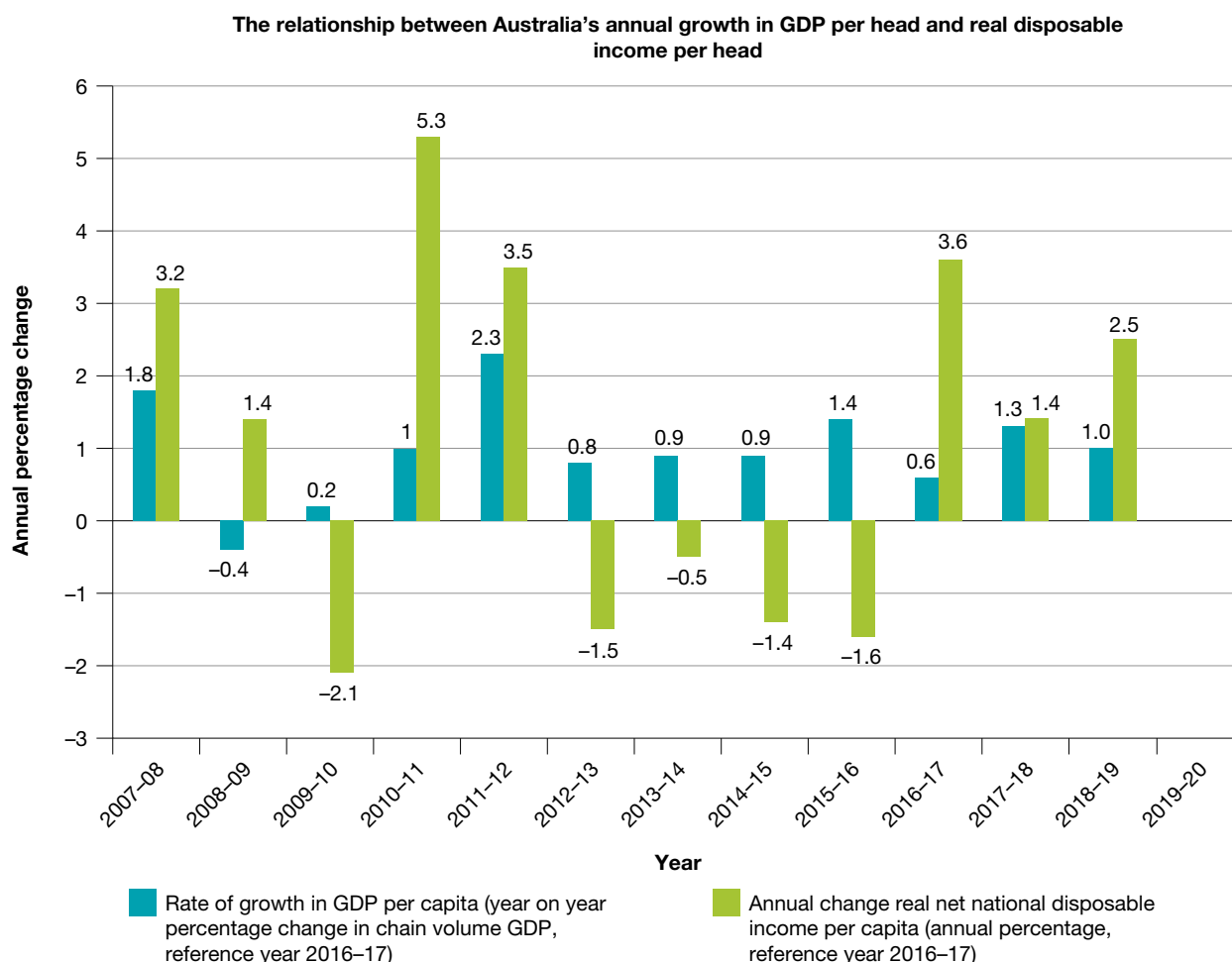
Economic growth can help raise real incomes and material living standards

As shown on the circular flow model (see figure 2.5 in subtopic 2.5), there is a close relationship between levels of national production and incomes. Normally, a nation can only have higher incomes if it produces more goods and services and there is *strong* economic growth at a rate that is faster than the increase in population (for Australia, this is usually 1.5–2 per cent a year). This usually causes real incomes per head, purchasing power and consumption to increase, thereby raising average material living standards. At the

other extreme, *sluggish* rates of economic growth associated with rising unemployment levels can slow or perhaps even decrease real incomes per person, cutting the quantity of goods and services consumed per capita and thus material living standards.

This relationship can be seen in figure 2.38. Notice that when GDP per capita rises more quickly, generally there is a faster rise in real disposable income per head (e.g. 2007–08, 2011–12, 2017–18). However, while weaker growth often causes real disposable (after-tax or spendable income) per head to fall (e.g. 2012–13–14–15–16).

FIGURE 2.38 How Australia's rate of economic growth affects real per capita income levels

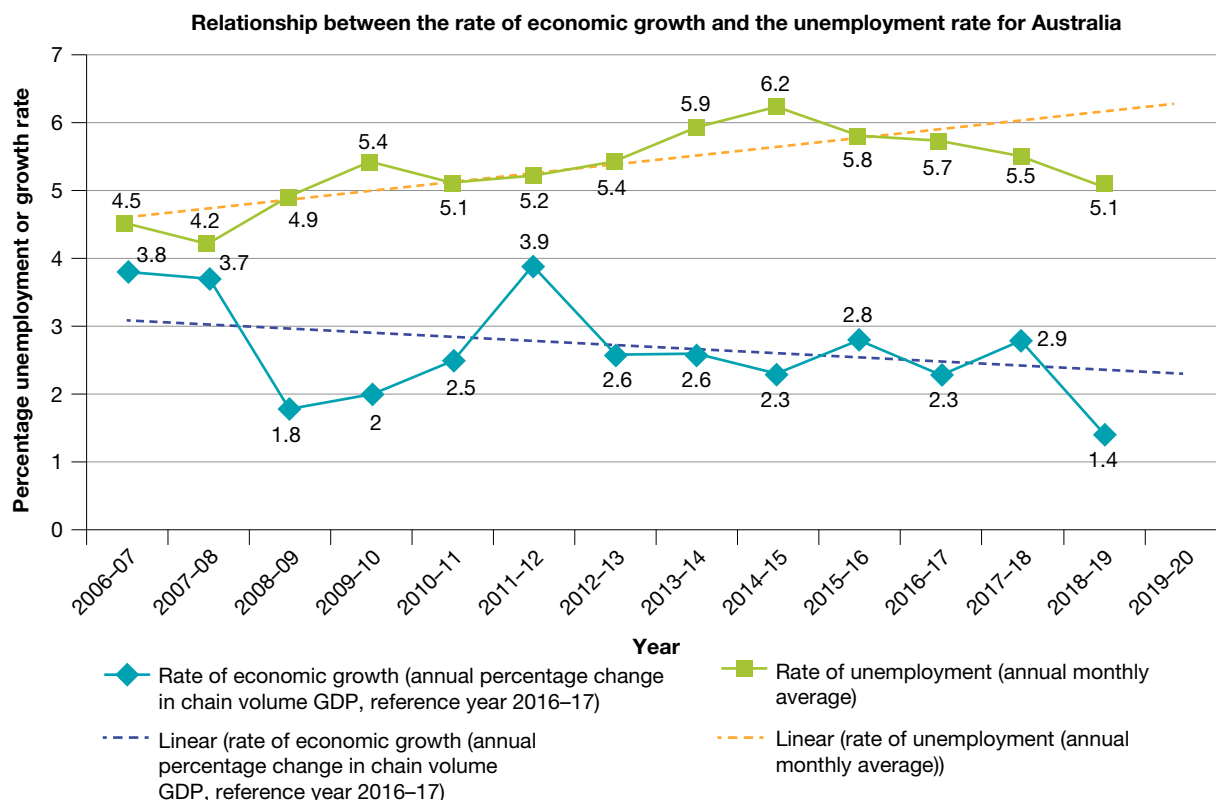


Source: Data derived from ABS 3101.0, 5206.0 (Table 3).

Economic growth generally creates more jobs and lowers unemployment

As shown in figure 2.39, when the rate of economic growth is slow or negative (as occurs during a recession), firms employ less labour and other resources as they cut their production levels. This leads to depressed average incomes, lower consumption of goods and services and material living standards. Especially during the GFC in 2008–09–10 and again in 2014–15, the average growth rate in GDP was slower and below the longer-term trend. This kept unemployment quite high. By contrast, as seen in the period 2006–07 to 2007–08 and to some extent in 2017–18, achieving stronger rates of economic growth lead to an increase in businesses demand for resources including labour, thereby boosting jobs and reducing cyclical unemployment. In turn, this helps to raise average per capita incomes, consumption and hence material living standards.

FIGURE 2.39 How Australia's rate of economic growth affects unemployment



Source: Data derived from ABS 5206.0 (Excel table), 6202.0.

However, despite these benefits, it should be pointed out that strong growth driven by the use of new technology in production that replaces workers, or resulting from aggressive cost-cutting and efficiency measures by firms and governments, may temporarily increase structural unemployment. So despite faster growth, it is possible that some people may experience a reduction in incomes, consumption and material living standards, especially in the short term.



Finally, governments pursue rapid economic growth to help lower unemployment in the long term, because this helps to strengthen our non-material wellbeing. More jobs can lead to improved physical and mental health outcomes for individuals, and reduce family tensions, social isolation, crime rates and unhappiness.

Economic growth improves the government's finances and ability to provide essential services

Solid rates of economic growth (perhaps around 3 per cent a year) help to strengthen the government's financial or budgetary position, possibly resulting in smaller budget deficits (where budget tax and other receipts are less than budget welfare and outlays) or even surpluses (when the value of budget receipts exceeds budget outlays). This occurs because average incomes rise when GDP is growing faster. Automatically, the government collects more budget revenue from personal, company, excise and sales taxes. In turn, having more tax revenue makes it possible to finance higher levels of government outlays on welfare for the neediest, along with improved provision of social and economic infrastructure

(e.g. transport, power, housing and telecommunications, education), without adding to the government's already heavy levels of borrowing, debt and interest repayments. As a result, society's collective needs are better met and living standards improved.

on Resources



Weblinks GDP — measuring economic growth

Goal of strong and sustainable economic growth

Nominal vs real, unemployment and inflation

2.10 ACTIVITIES

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

Check your understanding

1. Define what is meant by the government's goal of a strong and sustainable rate of economic growth.
2. What are the main effects of achieving strong and sustainable rates of economic growth?
3. What is GDP and how is it measured?
4. Explain two weaknesses of GDP as a measure of economic growth.
5. List and explain two important aggregate demand factors and two important aggregate supply factors that can either accelerate or slow Australia's rate of economic growth. Illustrate the effects of these macroeconomic factors using an aggregate demand-supply diagram.

Applied economic exercises

1. (a) Define *GDP*. (1 mark)
 (b) Outline two important limitations or inaccuracies of chain volume GDP when it is used to indicate each of the following:
 i. the rate of economic growth in a nation's production
 ii. overall living standards. (4 marks)
 (c) Given the hypothetical information for a country contained in table 2.3, calculate the chain volume GDP for Year 2, showing your basic working. (1 mark)

TABLE 2.3 Data for calculating chain volume GDP

Data	Year 1	Year 2
GDP at current or market prices	\$100 million	\$110 million
Chain price index (year 1 is the reference year for chain volume GDP in year 2)	100 points	105 points

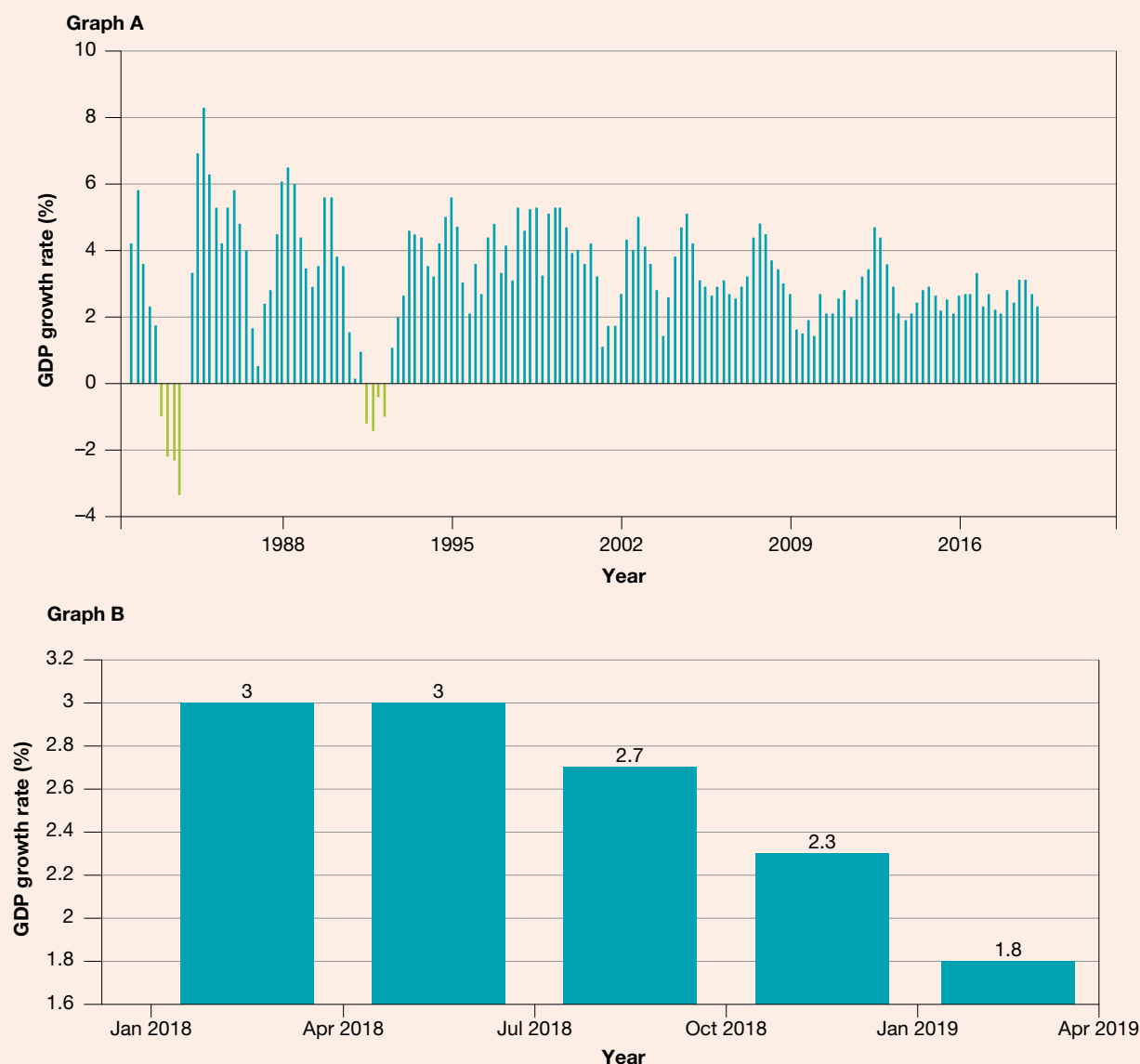
- (d) Outline why it is necessary for the ABS to make these adjustments to the value of GDP at market prices. (2 marks)
2. Australia's rate of economic growth depends on the interplay between two sets of factors. 'In the *long term*, strong and sustainable rates of economic growth require an increase in our productive capacity. Additionally, in the *short term*, economic growth requires a steady increase in the level of aggregate demand.'
 (a) Quoting relevant statistics, describe the trend in Australia's rate of economic growth during the last two years. (2 marks)
 (b) Identify and clearly explain two important aggregate demand factors that have affected Australia's rate of economic growth during the past two years. Try to provide statistical evidence of this relationship. Illustrate their effect on a fully labelled AD-AS diagram to show the *before and after* situations of these two factors. (4 marks)
 (c) Explain the meaning of the term *productive capacity*. (2 marks)
 (d) Identify and clearly explain two important aggregate supply factors that have affected Australia's rate of economic growth during the past two years. Try to provide statistical evidence of this relationship. Illustrate their effect on a fully labelled AD-AS diagram to show the *before and after* situations of these two factors. (4 marks)

- (e) Explain how any two of the following factors would be likely to affect Australia's rate of economic growth.
- The general drop in oil prices to relatively low levels during 2013–19
 - A 30 per cent fall in the terms of trade following the crash in commodity prices in 2013–16, followed by a 4.8 per cent rise during 2016–17–18–19
 - A low rate of growth in labour productivity, as happened during 2015–19
 - A drop in real net national disposable income per capita during 2013–16
 - Higher levels of unemployment, as happened during 2012–14
 - Infrastructure bottlenecks or labour shortages (caused by Australia's ageing population) and a relatively low participation rate
 - Higher rates of business bankruptcies
 - Proposed increases in government funding for national infrastructure projects from 2018–19 onwards
 - A 21 per cent fall in the TWI during 2011–19

(4 marks)

3. Examine figure 2.40 and answer the questions that follow.

FIGURE 2.40 Changes in Australia's annual growth rate in chain volume GDP reported quarterly



Source: Copyright © 2019 TRADING ECONOMICS - Australia GDP Annual Growth Rate. Data source from ABS.

- (a) Referring to data in graph A, describe the changes in the quarterly level of economic growth over the period 1981 to early 2019. **(2 marks)**
- (b) Referring to the graph, to what extent has the government's goal of strong and sustainable economic growth been achieved in the last two years? **(2 marks)**
- (c) Referring to data from graph B, describe the recent trend in Australia's annual rate of economic growth measured quarterly between January 2018 and January 2019. Other things remaining constant, explain how would you expect this to affect our rate of unemployment and inflation? **(5 marks)**
- (d) Examine table 2.4 showing recent trends in Australia's rates of economic growth and unemployment. Update table 2.4 to include the latest data available using ABS 5202.0 and 5206.0 and RBA Statistics.
4. (a) Referring to the GDP data in table 2.4, evaluate the extent to which the federal government has actually achieved its *goal of a strong and sustainable rate of economic growth*. **(2 marks)**
- (b) Quoting statistical data from table 2.4, explain the relationship that seems to exist between Australia's rate of economic growth and the unemployment rate. **(2 marks)**
- (c) Explain how the recent change in Australia's rate of economic growth would be likely to affect our inflation rate. **(2 marks)**
- (d) Explain how the recent change in Australia's rate of economic growth would be likely to affect the distribution of income and overall living standards. **(2 marks)**
- (e) How would the recent change in Australia's rate of economic growth be likely to affect the federal government's financial position and its ability to provide public goods and welfare? **(3 marks)**

TABLE 2.4 Trends in Australia's rates of economic growth and unemployment

Year	Percentage chain volume GDP (reference year is 2016–17)	Percentage unemployed rate (percentage of labour force unemployed)
2007–08	3.7	4.2
2008–09	1.8	4.9
2009–10	2.0	5.4
2010–11	2.5	5.1
2011–12	3.9	5.2
2012–13	2.6	5.4
2013–14	2.6	5.9
2014–15	2.3	6.1
2015–16	2.8	5.8
2016–17	2.3	5.7
2017–18	2.9	5.5
2018–19	1.4	5.1
2019–20		

Source: Data derived from ABS 5202.0, 5206.0; RBA Statistics.

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2.11 The goal of full employment

KEY CONCEPTS

- the meaning of the goal of full employment and classifications within the labour force: employed, unemployed, hidden unemployment, disguised or underemployed
- measurement of the labour force including the participation rate, the unemployment rate and the labour force underutilisation rate
- types and causes of unemployment: cyclical, structural, frictional, seasonal and hard-core unemployment
- the consequences of unemployment including loss of GDP, loss of tax revenue, reductions in living standards and greater income inequality

Full employment is a third Australian government domestic macroeconomic goal.

FIGURE 2.41 One of the Australian government's key domestic macroeconomic objectives is to achieve the goal of full employment.



However, when the level of aggregate demand or spending is too weak, firms cut production, reducing the demand for resources including labour. This can lead to a recession and cause a rise in cyclical unemployment. Unemployment not only reduces the average income and consumption levels of individuals, it also has adverse effects on the quality of life including family and other relationships, health and happiness.

2.11.1 Defining the goal of full employment

Employment means that a person 15 years or over, who is able and willing to work, has a paid job. This is seen as beneficial since it means that labour resources are being used productively to lift national output. It also allows individuals to gain income and enjoy better material living standards. However, **unemployment** occurs when people aged 15 years or over, who are ‘actively looking for work’, cannot find it. These people are prevented from contributing to national production, and the resulting increase in welfare payments are considered a burden on taxpayers and usually cause national incomes to be distributed less evenly than before. For these reasons, the Australian government seeks to achieve its **goal of full employment**.

More specifically, *the government’s goal of full employment means having the lowest rate of unemployment, perhaps around 4.5–5 per cent of the labour force, consistent with achieving low inflation and other government economic goals*. This implies that there should be no **cyclical unemployment** caused by weak aggregate demand, slow economic growth or recession.

According to recent research by the Reserve Bank of Australia (RBA), full employment for Australia is now defined as an unemployment rate of around 4.5–5 per cent of the **labour force**. Just a few years ago, this target was higher. It was thought that unemployment rates below 5 per cent would lead to fast wage rises and hence, accelerate inflation. If achieved, this lower unemployment target rate would allow us to use resources more efficiently, operate closer to Australia’s productive capacity and improve society’s general wellbeing.

Whatever the exact number, the target level of unemployment is currently chosen (rather than aiming for a zero per cent unemployment rate) because the government reluctantly accepts that there will always be some **natural unemployment**, even in a healthy economy. *Natural unemployment* can have four causes:

1. *structural causes of unemployment* — new technology (e.g. robotics in manufacturing, ATMs in banking, online buying in retail) making some jobs obsolete; the mismatch of skills held by the unemployed to the jobs vacancies available; business relocation or closures; rationalisation by firms such as the introduction of cost-cutting measures; some government microeconomic policies (e.g. cutting tariffs, market deregulation)
2. *frictional causes of unemployment* — people unemployed during their job search between one job and the next (e.g. builders and tradies)
3. *seasonal causes of unemployment* — unemployment that occurs at the same time each year (e.g. shearers, tourist operators and fruit pickers)
4. *hard-core causes of unemployment* — personal characteristics that make holding down a job difficult (e.g. those with personal characteristics such as a physical disability or perhaps a criminal record who may find obtaining employment difficult).

These days an unemployment rate of around 4.5–5 per cent of the labour force, is seen as the lowest rate currently possible without undermining the achievement of other government economic objectives, especially the *goal of low inflation*. This concept is called the *non-accelerating inflation rate of unemployment* (NAIRU); that is, the lowest possible rate of unemployment that will not significantly accelerate inflation. For example, if unemployment remained at around 3 per cent for long (as during 2007–08), there would be an acceleration of cost inflation mostly because labour shortages would cause wage levels to rise. Then, in order to protect their profits, many businesses would be forced to pass on these higher wage costs to customers by raising their selling prices.

2.11.2 Measuring the labour force

Let us now look at how we measure unemployment.

The ABS labour force survey

According to the Australian Bureau of Statistics (ABS), Australia’s *labour force* consists of all individuals aged 15 or over who are able and willing to work. The labour force therefore includes people who are defined as *employed* as well as those who are *unemployed*.

The extent to which the goal of full employment of the labour force is achieved is measured using various *labour market indicators* calculated by the ABS from its monthly *labour force survey*. The survey interviews only around 0.7 per cent of Australian households, who make up a representative sample. This, along with some data from private agencies, enables labour market statistics to be compiled on the following aspects:

- size and growth of the labour force
- rate and level of employment
- rate and level of unemployment
- rate of labour force underutilisation
- participation rate for persons
- duration of unemployment
- annual change in aggregate hours worked
- number of job vacancies.

But what exactly do all these terms mean?

Employed persons

Agreed definitions are an essential starting point for all surveys. In compiling these statistics, the ABS defines *employed persons* as meeting the following criteria:

- working either fulltime (35 or more hours per week) or part-time for more than one hour per week for pay (or more than 15 hours a week in a family business when not being paid)
- aged over 15 years.

It includes those who have a job, but may be prevented from working because of illness, strikes, holidays or other similar interruptions.

Unemployed persons

Unemployed persons are defined as those:

- actively looking for full- or part-time work but unable to find it
- able and willing to take up a job in the week prior to the survey period
- aged over 15 years.

It includes those waiting to resume work after being laid off or stood down without pay.

Calculating employment and unemployment rates

Employment and unemployment can be expressed in *two* ways:

1. Figures can be given as an actual *number*; for example, in February 2019, 12 742 200 persons were employed and 671 300 persons were unemployed out of a total labour force of 13 435 800 persons.
2. Figures can be expressed as a *rate* or percentage of the total labour force; for example, in February 2019, 95.0 per cent of the labour force was *employed* while 5.0 per cent was *unemployed*. The following formula can be used for this calculation:



$$\text{The unemployment rate(\%)} = \frac{\text{Number of people unemployed} \times 100}{\text{Total number of people in the labour force}}$$

Growth rates in employment and unemployment can also be calculated from these data.

Other terms and measures of labour market conditions

There are also several other important definitions that need to be understood about ABS labour market indicators.

- The **participation rate** is the proportion of all people aged 15 years and over who are either employed or unemployed, according to the above definitions. This rate can be calculated as follows:

$$\text{The participation rate(\%)} = \frac{\text{Total number of people in the labour force} \times 100}{\text{Total number of people 15 or over in the population}}$$

- **Job vacancies** refer to the number of job offers or positions advertised by employers that are unfilled.
- The **underutilisation rate** is the extent to which the available labour is not working at its capacity. This is equal to the unemployment rate *plus* the underemployment rate.

$$\text{Underutilisation rate(\%)} = \text{Unemployment rate(\%)} + \text{Underemployment rate(\%)}$$

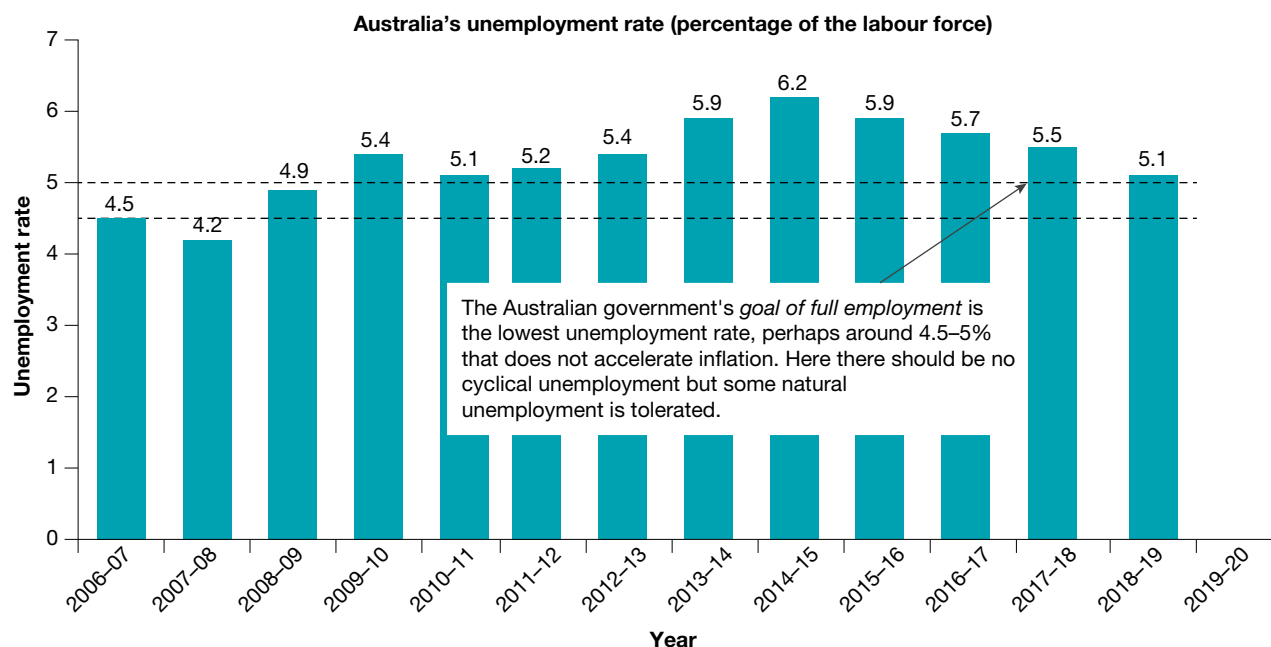
- The **duration** refers to the average number of weeks for which a person is unemployed.
- **Hidden unemployment** includes people who would like work but who are discouraged from seeking jobs for various reasons, such as a repeated failure to find work, and who have left the labour force and are therefore no longer 'actively looking for work'.
- **Disguised unemployment** is where individuals have jobs but are underemployed and not working to capacity, such as in part-time jobs with limited hours.

Despite the great range of labour market indicators shown in figure 2.42, the most commonly quoted one is the unemployment rate.

Limitations of the unemployment statistics

Australia's unemployment survey data can be misleading and inaccurate, for several reasons.

- *Definitions of employment and unemployment are somewhat arbitrary and affect the result.* The definitions used to classify a person as employed or unemployed are somewhat arbitrary or random. For instance, why should the cut-off point for employment be those who work more than one hour a week? Although this is common internationally, why should it not be, say, four or six hours of work a week?
- *The statistics fail to account for the hidden unemployed.* This category includes those who are discouraged from seeking jobs because of their feelings of hopelessness, lack of success in gaining work in the past, the unsuitability of their training, and because of personal and family reasons. Because they are not 'actively looking for work', they are not regarded as members of the labour force, nor are they classified as unemployed during normal surveys. The inclusion of these people would cause a much higher level of unemployment than is currently reported. For instance, the ABS has conducted a survey of hidden unemployment and found that their inclusion would have more than doubled the official unemployment rate. In addition, the ABS also publishes statistics on the *underemployed* (disguised unemployment) where employees have jobs but are not working to their full capacity.

FIGURE 2.42 Trends in Australia's labour market indicators


Labour market indicator	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1. Unemployment rate (percentage of labour force, average of 12 months)	4.5	4.2	4.9	5.4	5.1	5.2	5.4	5.9	6.1	5.8	5.7	5.5	5.1	
2. Percentage change in the annual rate of unemployment.	-7.2	-6.6	16.6	10.2	-5.5	1.9	3.8	9.2	5.1	-4.8	-3.4	-3.5	-7.2	
3. Unemployment rate 15-19 to 2011-12, and 15-24 years from 2012-13 (trend percentage at June)	13.1	12.8	17.0	17.3	15.8	16.8	12.0	13.5	13.4	12.7	12.8	11.6	11.9	
4. Long-term unemployed as a percentage of total unemployed (at June)	16.1	16.0	15.4	19.3	20.8	19.7	20.1	24.4	23.4	22.9	23.2	25.1	23.2	
5. Number unemployed persons ('000 at June)	459	477	671	618	589	594	688	742	766	726	726	714	709	
6. Labour force underutilisation rate (trend percentage at May each year)	10.8	10.0	13.4	12.5	12.0	12.4	12.9	13.5	14.1	14.1	14.3	13.9	13.5	
7. Participation rate (trend percentage at June)	65.0	65.6	65.5	65.2	65.4	65.0	64.7	64.9	65.0	64.8	64.9	65.6	66.1	
8. Annual rise in the number part- and fulltime employed (percentage change, trend, June on June).	2.8	2.4	0.4	2.7	2.0	1.3	1.1	0.7	1.7	1.8	1.9	2.6	1.6	
9. Annual total job vacancies ('000, public and private at May)	161.6	179.8	na	165	181	172	139	143	156	159	189	236	243	
10. Annual percentage change in aggregate hours worked (trend June on June)	2.8	3.0	1.6	3.3	1.6	0.7	0.6	0.9	0.8	0.4	3.2	2.6	2.0	

Source: Data to construct graph derived from ABS 5206.0 (Excel table) and 6401.0. Data for table derived from ABS 6202.0, 6291.0.55.001 (Tables 14B, 15B), 5206.0, 6105.0, 1350.0, 6291.0.55.001, 6354.0; RBA Statistics (Labour force, G7).

- *Changes in the participation rates and other factors can affect the results.* A change in the *participation* rate, the *duration* of unemployment or the proportion of those in fulltime work, could have caused the unemployment rate to either look better or worse.
- *Survey error.* With only around 0.7 per cent of Australia's population being surveyed across different regions, industries and occupations, the likelihood of error in the results is higher than would be the case with a survey of all workers. This may partly account for the variability in recent unemployment figures.

2.11.3 Causes and types of unemployment

Australia's unemployment rate and labour market conditions as shown in figure 2.42 are influenced by *two* sets of factors:

- *cyclical unemployment* is caused by generally weaker *aggregate demand factors* that slow spending on Australian-made goods and services
- *natural unemployment* (especially structural unemployment) is caused by changing *aggregate supply conditions* that alter the way goods and services are produced and/ or whether firms close down.

The causes of cyclical unemployment

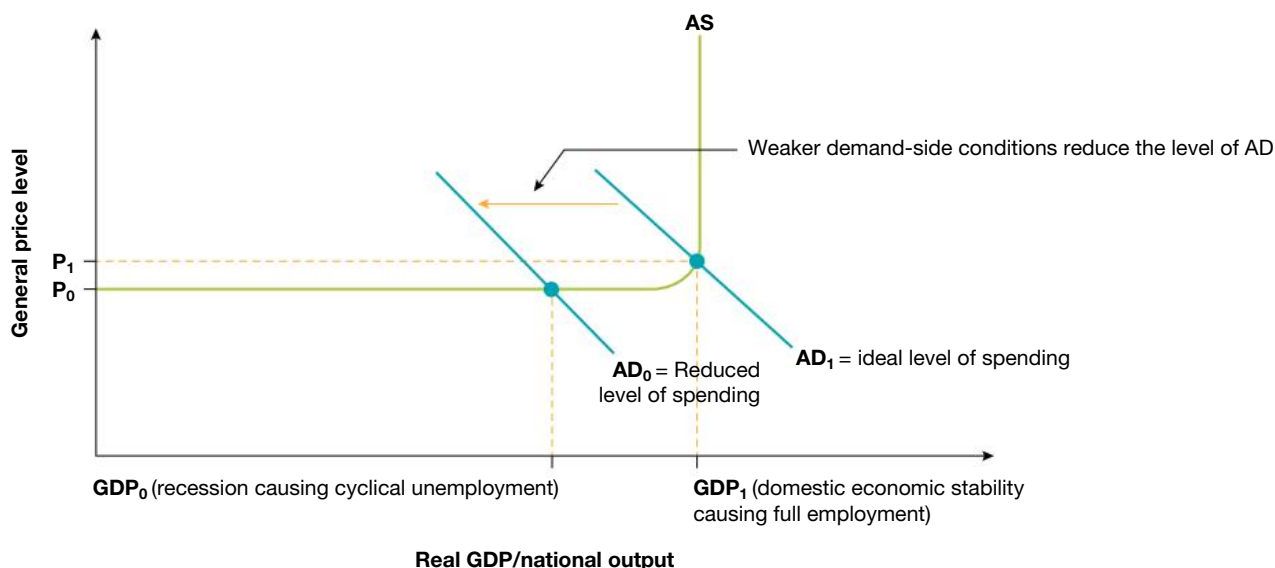
The general rule is that Australia's level of **cyclical unemployment** rises and falls with the overall strength of *aggregate demand conditions* that affect the pace of economic activity. These conditions include factors like consumer confidence, business confidence, disposable income, population growth, the effects of taxes and outlays in the budget, interest rates and the RBA's monetary policy, the exchange rate for the Australian dollar, overseas economic activity and the terms of trade.

- When domestic and international *demand conditions are generally weaker*, they cause the level of spending, production and economic activity to collapse, possibly leading to recession and cyclical unemployment. This is because falling levels of AD ($C + I + G + \text{net } X$) mean that firms will notice rising stocks and fewer orders. Sooner or later they have little choice but to cut production, which weakens the demand for resources including labour and raises the level of cyclical unemployment.
- When *aggregate demand conditions are generally stronger* and accelerate AD, firms notice rising sales, falling stocks and greater orders for goods and services. In response, businesses try to lift their output by employing more resources, including labour. If extra staff can be recruited from the ranks of the unemployed, then the level of cyclical unemployment will fall. Once the pool of cyclical unemployment is eliminated, further falls in unemployment would not easily be possible. They would only cause labour shortages in a sizzling labour market, driving up wages and causing cost inflation.

Using the AD–AS diagram to show the effects of changing demand conditions on the labour market

The effects of changing aggregate demand conditions on the level of economic activity and the rate of cyclical unemployment can be illustrated on an AD–AS diagram. Figure 2.43 shows that if mostly *weaker aggregate demand conditions* cause expenditure on Australian-made production to fall below the economy's productive capacity (from AD_1 to AD_0), then national production and employment will fall (from GDP_1 to GDP_0) causing *cyclical unemployment* to rise. In reverse, generally stronger aggregate demand conditions stimulate spending (from AD_0 to AD_1) and economic activity (seen in the rise from GDP_0 to GDP_1), creating full employment. Only if spending grows too fast (beyond AD_1) and exceeds the economy's capacity will the onset of overfull employment in the labour market cause inflation to accelerate.

FIGURE 2.43 How weaker aggregate demand conditions that slow AD and GDP can cause higher levels of cyclical unemployment.



The causes of natural unemployment

Despite the re-emergence of some cyclical unemployment recently in Australia, the main cause or type of unemployment facing Australia is *natural unemployment*. Recall that natural unemployment consists of *four* types:

1. structural unemployment (the most important cause recently)
2. frictional unemployment
3. seasonal unemployment
4. hard-core unemployment.

Currently, these four types of natural unemployment make up around 5 per cent of the labour force or a bit less (representing the government's goal or target in this area). This figure represents the *non-accelerating inflation rate of unemployment* or NAIRU — that is, the lowest unemployment rate that will *not* result in increased inflation. Often natural unemployment is caused by *changing aggregate supply conditions*. Unlike cyclical unemployment that can occur only in a recession, some natural unemployment exists all the time. Let us look more closely at the *four* main types or causes of *natural unemployment*.

1. Structural unemployment

Structural unemployment is easily the biggest single cause of natural unemployment and accounts for most of Australia's current unemployment rate. It occurs because of *structural change* where businesses alter the way they go about producing goods and services and try to cut costs or lift efficiency. Structural change can arise from the following causes:

- *Use of new technology.* The replacement of labour with new technology and automated machines can lead to higher structural unemployment in an industry. For instance, the past 20 years especially have seen the widespread adoption of robotics in the manufacture of cars and household appliances, the increased use of electronic data processing and communications (in banking ATMs, stock management,



transportation and warehousing), and the rise in online buying (adversely affecting traditional retail stores). This has displaced many unskilled jobs. A recent report warned that by 2030, up to 46 per cent of existing work in Australia (i.e. up to 6.5 million fulltime jobs) could be automated, possibly creating higher levels of structural unemployment.

- *A mismatch of skills among the unemployed.* When firms use new technology, they often no longer need to hire those with traditional skills. This creates a mismatch between the skills held by the unemployed and the skills needed to fill the advertised job vacancies. Skills most recently sought by employers include those of computer programmers, and experts in electronics and robotics. Unfortunately, most of our 673 000 or so unemployed lack the wanted skills to fill the 245 000 job vacancies on offer (February 2019), and so remain unemployed.
- *Business closures and relocation due to high costs, poor profits and a lack of international competitiveness.* If production costs are too high and profits too low, local businesses are uncompetitive. They are forced to close down or move to overseas countries with cheap wages, such as India, China and the Philippines. This causes structural unemployment to rise locally. Recent examples of local business closures include Darrell Lea Sweets, some Heinz food plants, a section of Qantas servicing, the Shell Refinery at Clyde, Pacific Brands (Bonds underwear), car makers GMH, Ford and Toyota during 2017, auto parts maker CMI, Toys“R”Us and Footlocker. There are many aggregate supply developments that may push up business costs, erode profits, reduce our international competitiveness, and possibly lead to business closures and hence *structural* unemployment. These include the following:
 - higher wage and labour on-costs
 - poor labour productivity
 - expensive borrowing costs or interest rates
 - the switch to online shopping by many consumers
 - climate change and severe weather events.
- *Some recent government aggregate supply policies.* Aggregate supply policies are cost-cutting, efficiency promoting measures that seek to improve business conditions, reduce costs, grow profits, encourage expansion and boost Australia’s productive capacity. Especially in the shorter term, some of these policies can lead to higher structural unemployment. With this in mind, consider the following policy measures:
 - changes to the operation of the labour market involving some deregulation of the labour market
 - government trade liberalisation that involves gradually reducing the level of tariff protection of local firms from imports.

The AD–AS diagram shown in figure 2.44 can be used to illustrate the effects of higher production costs on the level of *structural unemployment*. These *less favourable supply conditions* shift the AS line inwards and to the left (from AS_1 to AS_2). Rising costs of production can force firms to increase their prices, resulting in cost inflation (prices rise from P_1 to P_2). Cost pressures can also reduce the competitiveness and profitability of local firms. As a result, some businesses will close down and staff may lose their jobs as national output falls (the shift from GDP_1 to GDP_2). In reverse, *better aggregate supply conditions* that increase profits or capacity may cause an outward shift to the right in the AS line (from AS_2 to AS_1) because firms are more willing and able to expand production (the shift from GDP_2 to GDP_1). Instead of closing down, firms expand, jobs are retained and structural unemployment falls.

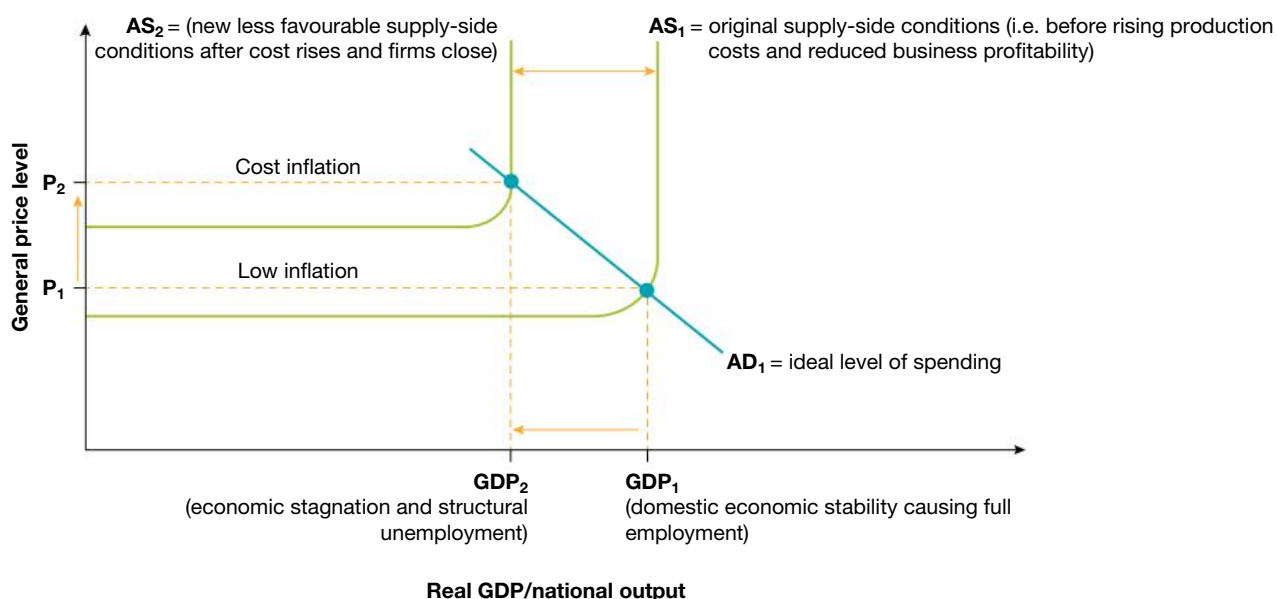
2. Frictional unemployment

Frictional unemployment is a second type of natural unemployment. It exists when people are unemployed between finishing one job and starting another. This is common in the building trades and in some areas of rural industry.

3. Seasonal unemployment

Seasonal unemployment is a third type of natural unemployment. It results from the termination of jobs at the same time each year due to the regular change in the seasons. For instance, fruit pickers, tourist

FIGURE 2.44 How aggregate supply changes involving rising production costs, lower profits and business closures can cause higher structural unemployment.



and holiday operators, ski instructors, school leavers and shearers frequently experience this type of unemployment.

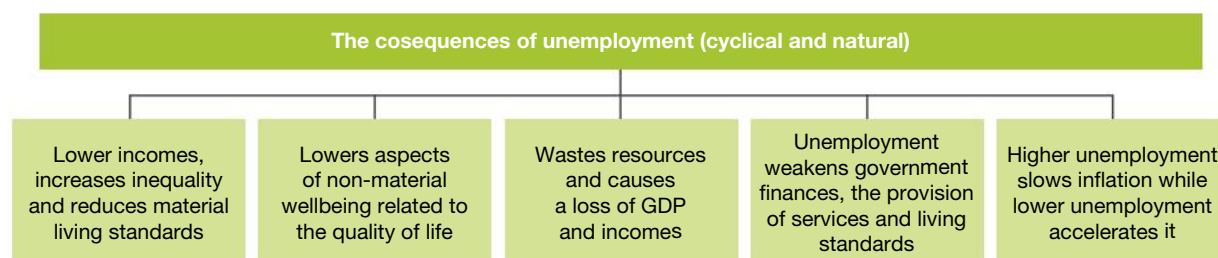
4. Hard-core unemployment

Hard-core unemployment is another type of natural unemployment. It is often the product of personal attitudes that are seen by some as hostile to effective employment. Sometimes, people lose the work ethic and find it hard to hold down a nine-to-five job. Especially in the past, it was claimed that our over-generous welfare system increased unemployment levels because it made unemployment too comfortable, creating a *welfare trap*. Sometimes, too, personal appearance, criminal record or a physical disability can prevent individuals from being given an opportunity to work.

2.11.4 Consequences of unemployment

High unemployment rates have mostly negative effects. As shown in figure 2.45, they depress both material and non-material living standards of individuals and their families, and they are bad for the economy. By contrast, the achievement of the *goal of full employment* usually has beneficial impacts on living standards. Let us look at these effects more closely.

FIGURE 2.45 The consequences of unemployment



Unemployment lowers incomes, increases inequality and reduces material living standards

Having achieved full employment means that most people receive relatively good incomes and are able to enjoy reasonable living standards. For instance, in 2019 those with fulltime jobs on average weekly earnings were paid around \$1700, while for 2019–20, those on the adult minimum wage received \$740.80 a week. By contrast, there is generally a big cut in average incomes and living standards when people lose their jobs and become unemployed and dependent on government welfare benefits of perhaps only \$250–\$350 per week. Similarly, changing from fulltime employment to part-time or casual work brings a corresponding reduction in disposable income. With less income, a person has to reduce spending and purchase fewer goods and services. Material living standards fall, and income inequality widens.

In addition, the long-term unemployed (those unemployed for more than 52 weeks) find that their wealth (personal assets) is quickly run down to meet daily expenses. Moreover, non-material wellbeing often suffers due to a loss of self-esteem, health, skills and friendships; potentially higher crime rates; and feelings of despair, isolation and failure.

Unemployment lowers *non-material* wellbeing and the quality of life

Typically, the unemployed are less happy, more financially stressed, enjoy poorer physical and mental health outcomes (e.g. higher rates of diabetes, social isolation and depression), and have feelings of poor self-worth. These factors adversely affect the quality of daily life and overall, reduce society's non-material wellbeing.



Unemployment is a waste of resources and causes a loss of GDP and incomes

Only when there is full employment will economic growth and material living standards be maximised. In this situation, the economy would be located on its production possibility frontier and thus operating at its productive capacity or physical limit. By contrast, higher unemployment means that some labour resources are idle and therefore not contributing to national production or the generation of incomes. Here, average incomes, purchasing power and material living standards would suffer.

High unemployment can slow inflation

Higher unemployment tends to slow *cost inflation*. This is because unemployment means that the supply exceeds the demand for labour creating a surplus or glut that depresses wages in the labour market.

In addition, unemployment can also reduce *demand inflation*. The unemployed have less disposable income, eroding confidence and slowing spending. Weaker spending can cause an unplanned rise in unsold stocks of goods leading to price discounting.

By contrast, if Australia's unemployment rate was very *low* (say less than 4.5–5 per cent of the labour force), this would signal labour shortages. Here, the demand for labour by businesses would exceed the supply of labour. As expected, labour shortages would lead to increased *wage costs*, putting pressure on firms to pass on these costs to consumers as higher prices in order to protect their profit margins. This would cause cost inflation.

Very low unemployment could also add to demand inflation, because it causes wages and income to rise more quickly, strengthening confidence and consumption spending. If there is little unused capacity, higher spending might lead to widespread shortages of goods and hence demand inflation.

Unemployment weakens government finances and living standards

It is important that we provide financial support for the unemployed through the payment of government welfare and income support. However, this becomes very expensive and less affordable when unemployment is high. This is because high unemployment means there are fewer people paying income taxes and spending on goods and services, reducing budget receipts. In addition, more people qualify for welfare increase budget outlays. Together, these weaken the government's finances. For example, at the peak of the recession in 1992, there were more than 950 000 unemployed people requiring welfare benefits. Similarly, during 2012–13–14–15, the number of unemployed rose to 766 000 people. These conditions put a huge strain on the government's budget and finances. With rising unemployment, there is less tax revenue collected by the government yet budget outlays on welfare and some services are higher. With less money coming in and more going out, the budget typically moves into deficit (i.e. outlays exceed receipts) where the government is forced to increase its borrowing or debt, that then needs to be repaid down the track. It may also mean that the government needs to cut other areas of spending such as education or health, or even raise tax rates on those with jobs to repair the deficit. Overall, weakened government finances reduce society's general wellbeing.



In contrast, when the goal of full employment is achieved, the government's budget position is far stronger and surpluses may even be recorded. In this situation, the government is in a better position to improve its provision of community services and infrastructure, and possibly even cut tax rates, improving average living standards.



Resources



Weblinks Nominal vs real, unemployment and inflation
Unemployment and labour force

2.11 ACTIVITIES

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

Check your understanding

1. Define the government's goal of full employment.
2. What are the main effects of high rates of unemployment?
3. How does the ABS measure labour market conditions?
4. Explain two inaccuracies that may affect the measurement of the unemployment rate.
5. List and explain two important aggregate demand factors and two important aggregate supply factors that could affect Australia's unemployment rate.

Applied economic exercises

1. (a) The ABS collects a range of data relating to Australia's *labour market conditions* including the labour force, unemployment rate, participation rate, underemployment rate, average hours worked and more. Examine table 2.5 and calculate the following (showing your formulae and basic working):
 - i. size of the labour force
 - ii. unemployment rate
 - iii. employment rate
 - iv. participation rate in the labour force.

(4 marks)

TABLE 2.5 Australia's population and labour force estimates, February 2019

Indicator	Persons
Total population of Australia	25 301 000
Total number of persons aged over 15 years	20 482 000
Number of people employed	12 762 000
Number of people unemployed	673 100

Source: Data rounded and derived from ABS 3101.0, 6202.0, 6291.0.55.003.

See also Australia's population clock, <http://www.abs.gov.au/ausstats/abs@.nsf/0/1647509ef7e25faaca2568a900154b63?OpenDocument>.

- (b) Examine the data in table 2.6 relating to Australia's *labour market conditions* between 2012–13 and 2019–20 before answering the questions that follow.

TABLE 2.6 Changes in selected indicators of Australian labour market conditions, 2012–13 to 2019–20

Year	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
1. Unemployment rate (percentage of labour force, average of 12 months)	5.4	5.9	6.1	5.8	5.7	5.5	5.1	
2. Percentage change in the annual rate of unemployment	3.8	9.2	5.1	–4.8	–3.4	–3.5	–7.2	
3. Unemployment rate, 15–19 age group for 2011–12 and 15–24 age group for other years, (trend percentage at June)	12.0	13.5	13.4	12.7	12.8	11.6	11.9	
4. Long-term unemployed as a percentage of total unemployed (at June)	20.1	24.4	23.4	22.9	23.2	25.1	23.2	
5. Number unemployed persons ('000 at June)	688	742	766	726	727	714	709	
6. Labour force underutilisation rate (trend percentage at May each year)	12.9	13.5	14.1	14.1	14.3	13.9	13.5	
7. Participation rate (trend percentage at June)	65.0	64.9	65.0	64.8	64.9	65.6	66.1	
8. Annual rise in the number of part- and fulltime employed (percentage change, trend, June on June)	1.1	0.7	1.7	1.8	1.9	2.6	1.6	
9. Annual total job vacancies ('000, at May)	139	143	156	159	189	236	243	
10. Annual percentage change in aggregate hours worked (June-on-June trend)	0.6	0.9	0.8	0.4	3.2	2.6	2.0	

Source: Data derived from ABS 3101.0, 6202.0, 6291.0.55.001 (Tables 14B, 15B) 5206.0, 6105.0, 6291.0.55.001, 6354.0; RBA Statistics (Labour force, G7).

- i. What is meant by the term *labour market conditions*? (2 marks)
- ii. Using supportive statistics drawn from table 2.6, or from the most recent data found on the ABS website, describe the general trends in the strength of Australia's overall labour market conditions over the past two years. (3 marks)
- iii. Quoting statistical evidence from table 2.6, evaluate the extent to which the federal government has actually achieved its goal of full employment during the last two years. (2 marks)
- (c) What are the main differences between *cyclical unemployment* and *structural unemployment*? (2 marks)
- (d) Identify *two* important aggregate demand factors that have affected Australia's labour market conditions during the last two years. Use a fully labelled AD–AS diagram to help explain their likely impact on the unemployment rate. (2 marks)
- (e) Identify *two* important aggregate supply factors that have affected Australia's unemployment rate during the last two years. Use a fully labelled AD–AS diagram to help explain their likely impact. (2 marks)
- (f) From the following list, select *one* important aggregate demand factor and *one* important aggregate supply factor, and explain how *each* is likely to have affected Australia's *labour market conditions*.
 - i. An overall reduction in the federal government's budget deficit, 2013–14–15–16–17–18–19
 - ii. A very slow rate of rise or fall overall in RULCs, 2016–17 to 2018–19
 - iii. A decline in China's rate of economic activity, 2013–19
 - iv. Mostly weaker or flat domestic consumer confidence, 2013–19
 - v. An 18 per cent fall in the TWI representing a measure of the exchange rate for the Australian dollar against other important currencies
 - vi. The twelve cuts in domestic interest rates by the RBA between 2011 and April 2019
 - vii. Weaker business confidence in Australia (4 marks)
- (g) Between 2016–17 and February 2019, Australia's *underutilisation rate* fell from 14.3 per cent to 13.1 per cent.
 - i. Explain what is meant by the *labour force underutilisation rate*. (1 mark)
 - ii. Showing your working, calculate the underutilisation rate for a country using the hypothetical data contained in table 2.7. (1 mark)

TABLE 2.7 Hypothetical data for a nation's labour force

Indicator	Percentage
Employment rate (percentage of the labour force)	95.5
Unemployment rate (percentage of the labour force)	4.5
Underemployment rate (percentage)	4.8
Population aged over 15 (percentage of total population)	78.0
Participation rate (percentage)	70.0

- (h) The federal government pursues the goal of full employment because it helps to improve our living standards. Explain how the *fall* in Australia's unemployment rate from 6.1 to around 5.1 per cent between 2014–15 and 2018–19 would tend to affect any *three* of the following.
 - i. Consumer confidence and the growth in AD
 - ii. The rate of economic growth
 - iii. The rate of inflation
 - iv. Government finances and the budget bottom line
 - v. Income inequality
 - vi. The level of non-material living standards (3 marks)

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2.12 Aggregate demand and aggregate supply factors that have influenced domestic macroeconomic performance in the last two years

KEY CONCEPT

- aggregate demand and aggregate supply factors that have influenced inflation, economic growth, the unemployment rate and living standards in the past two years

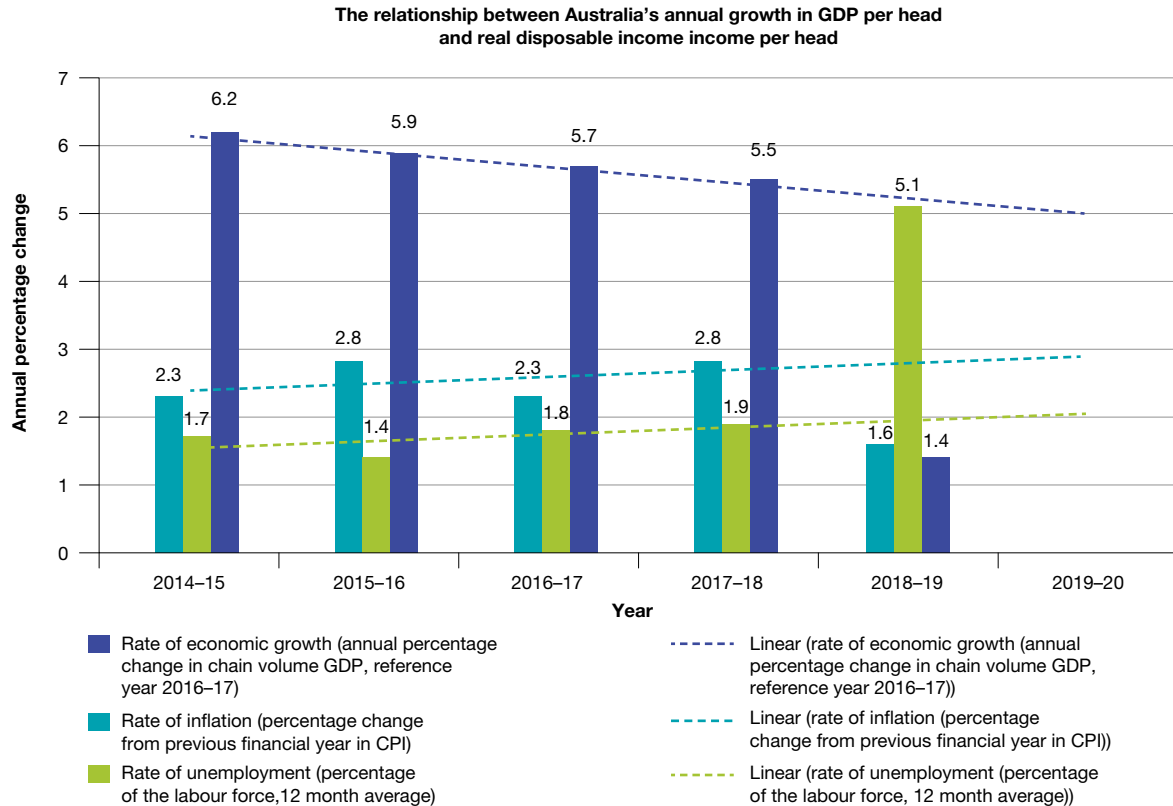
By now you should understand that there are *two* main drivers that determine domestic *macroeconomic economic conditions*, thereby affecting the degree to which the Australian government's three key *domestic macroeconomic goals* and living standards are achieved.

In the last two years to 2019, changing *aggregate demand* and *aggregate supply* factors caused the following trends:

- The average *inflation rate* was very *low* sitting at around 1.7 per cent (below the bottom end of the RBA's target range of 2–3 per cent a year).
- The average *rate of economic growth* was *slower* recently, averaging just 2.5 per cent (below the government's goal of 3 per cent).
- The average *unemployment rate* fell to around 5.3 per cent (above the government's goal of 4.5–5 per cent).

These performance trends are shown in figure 2.46.

FIGURE 2.46 Recent changes in Australia's three key domestic macroeconomic indicators



Source: Data derived from ABS, 5206.0, 6202.0, 6401.0.

In the current VCE course, students are required to have an understanding of the various aggregate demand and aggregate supply factors that have shaped Australia's macroeconomic conditions over the last two years. Some of these factors are discussed in the next two sections of this text, but bear in mind that these influences are continually changing and hence this section will need to be regularly updated.

2.12.1 Aggregate demand factors that have recently affected Australia's economic conditions and living standards

Over the last two years to 2019, there were some *aggregate demand factors* that operated to *strengthen* spending on Australian-made goods and services. These included low interest rates, a weaker exchange rate, reductions in company tax, modest economic growth overseas, improvements in our terms of trade, rising disposable incomes and positive business confidence.

However, unfortunately, these were partly offset, since other factors were creating headwinds that slowed AD. Here we might think of flat consumer confidence, reductions in real disposable income per head and the cut in the size of budget deficits. The upshot of these opposing forces is that *overall*, aggregate demand was *weaker* and economic conditions were less than ideal. In this situation, the Australian government's three key domestic goals were not fully achieved:

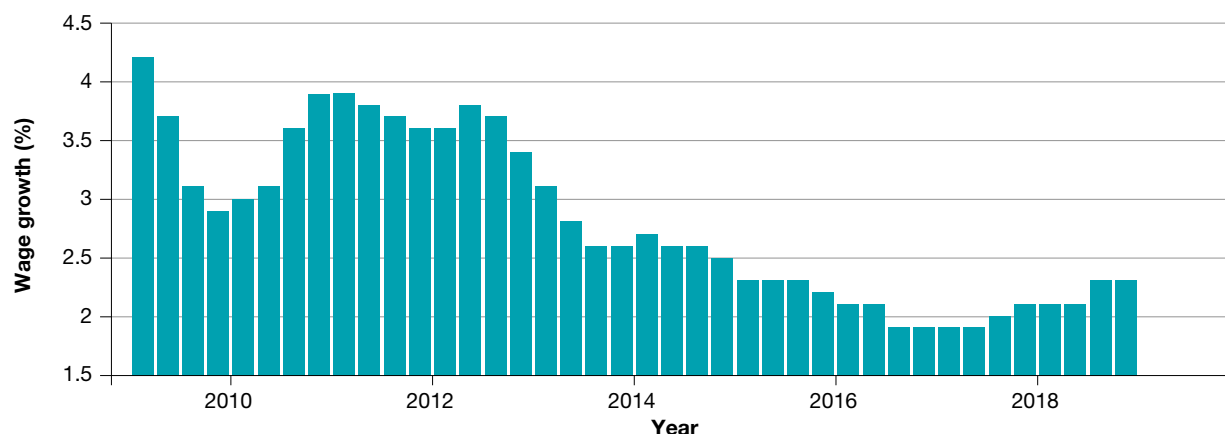
- *Absence of demand inflation:* Weaker AD conditions both here and overseas, have led to unplanned rises in stocks. In turn, firms responded by widespread *price discounting* to clear their surplus, thereby removing demand inflation pressures.
- *Slower cyclical rate of economic growth:* The weaker growth in AD combined with slower orders and unplanned rises in stocks caused many firms to cut production. This *reduced the cyclical growth rate in our GDP*.
- *High cyclical unemployment:* To avoid further unplanned rises in stocks there was a slower rise in production. As a result, the demand for labour rose more slowly. This led to higher than usual rates of cyclical unemployment, mostly above 5 per cent, along with some weakness in labour market conditions.

So with this general background in mind, our attention now turns to a closer look at some of the specific aggregate demand factors affecting the economy's performance and the success or otherwise in achieving our key domestic macroeconomic goals.

Slow wages growth weakened consumer spending

As an aggregate demand factor, the level of consumption spending (C) accounts for over 60 per cent of all spending making up AD. If it rises more slowly, as seen in recent years and figure 2.47, this greatly weakens the growth total spending and the speed of activity. In turn, this causes economic growth to be sluggish, further depressing demand inflation and adding to cyclical unemployment.

FIGURE 2.47 Recent trends in Australian wages growth



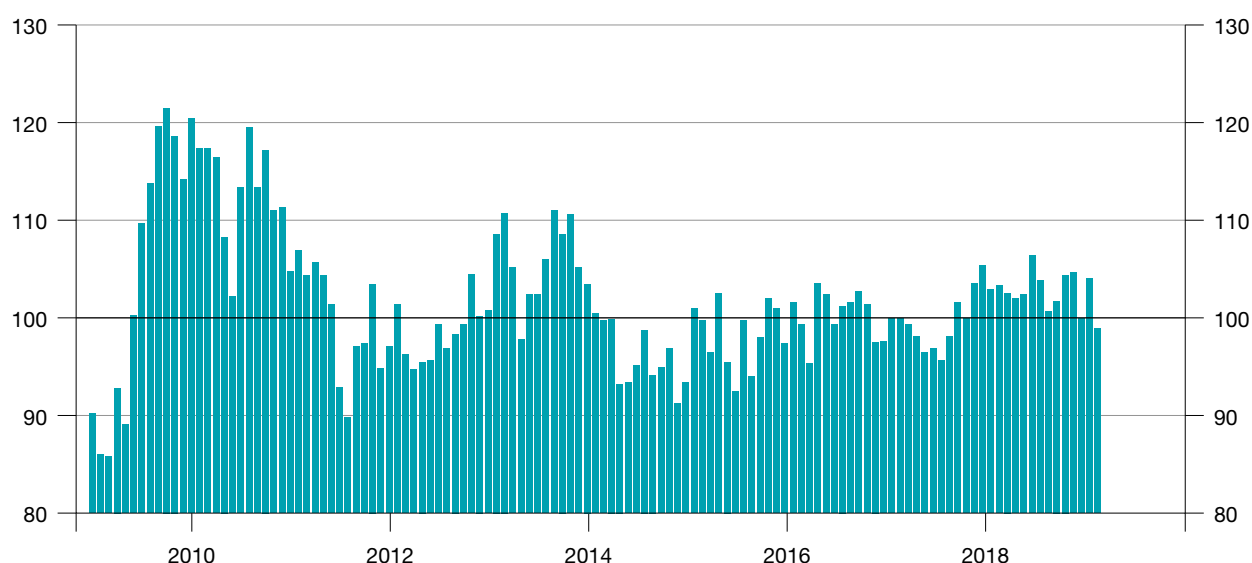
Source: Copyright © 2019 TRADING ECONOMICS.

Mostly flat or weak consumer confidence slowed consumption spending

Over the last few years, figure 2.48 shows that Australian consumers have been relatively pessimistic about their future employment situation and income level. On this graph, 100 index points is where the number of optimists exactly equals the number of pessimists. So between 2016 and early 2019, most households were pessimistic (the index was below 100 points as it was in 18 out of the last 40 months). As a weaker aggregate demand factor, this slowed the growth in private consumption spending (C) weakening AD.

As unsold stocks of goods rose, firms often discounted their prices, reducing demand inflation pressures. In addition, some businesses cut production, along with the demand for resources. This added to cyclical unemployment and kept labour market conditions weaker.

FIGURE 2.48 Changes in Australia's index of consumer confidence



Source: Copyright © 2019 TRADING ECONOMICS.

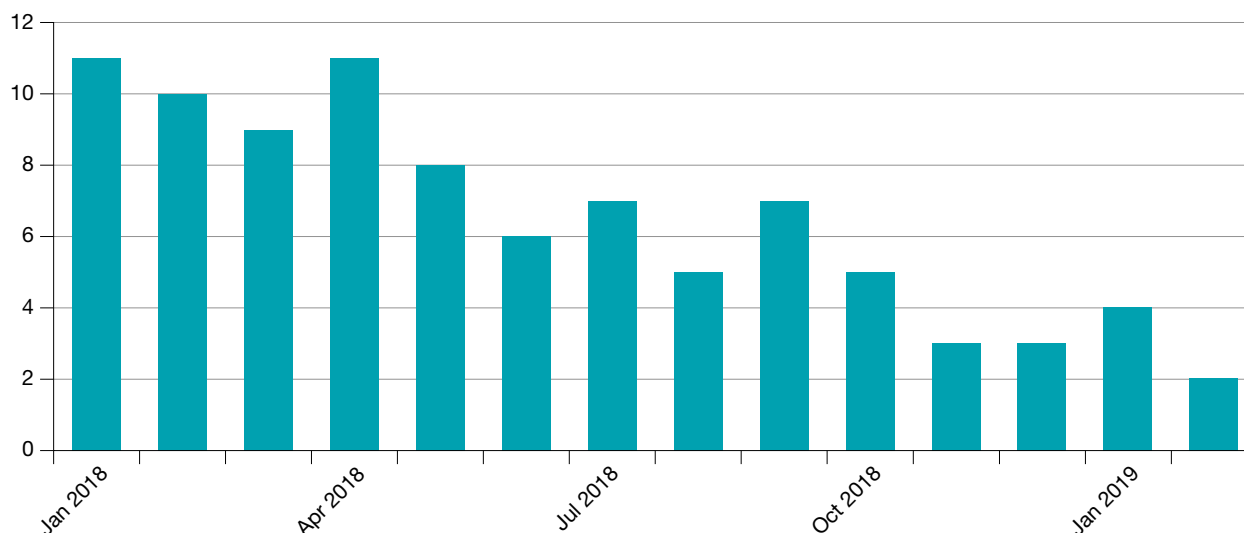
Modest business confidence helped to lift investment spending

As shown in figure 2.49, most businesses were moderately optimistic about their future levels of sales and profits over the last few years. The optimists outweighed the pessimists as shown by the net balance being above zero. As a result, many businesses increased their borrowing of money from banks to finance higher levels of private investment spending (I). This helped to strengthen AD and caused unsold stocks to fall. In turn, some firms boosted their production, increasing the demand for resources. This then helped to cause a fall in cyclical unemployment and a rise in average incomes.

Even so, figure 2.49 also shows that business confidence, as an aggregate demand factor, affects the level of business investment spending. Recently this weakened dramatically between mid 2018 and early 2019. Unfortunately, if this trend persists, it would tend to slow AD, inflation, GDP growth and employment.



FIGURE 2.49 Changes in business confidence or expectations — Australia



Source: Copyright © 2019 TRADING ECONOMICS - Australia Business Confidence.

Low interest rates encouraged consumption and investment spending

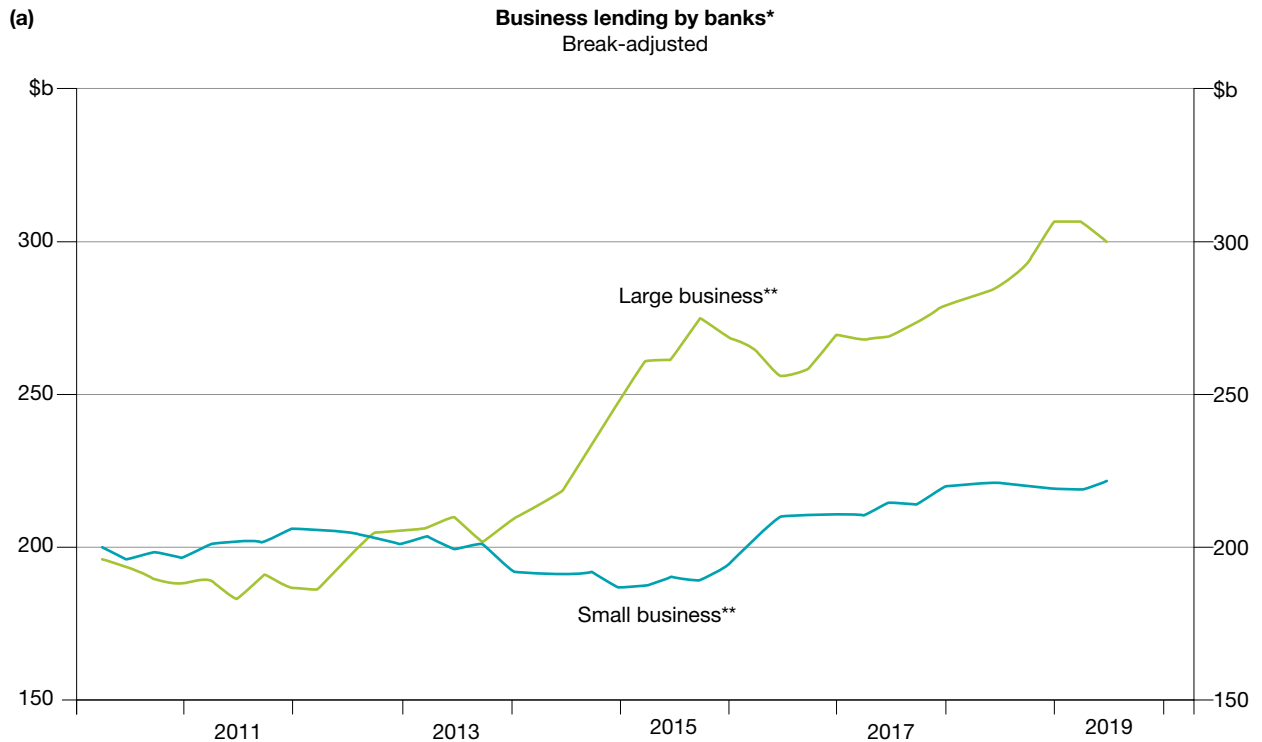
Australian interest rates have been at record lows in recent years to 2019. As a stronger aggregate demand factor, this made it cheaper and more attractive for households and businesses to borrow credit and undertake private consumption (C) and investment (I) spending, in turn helping to stimulate AD, GDP and employment, all without accelerating inflation pressures (given the current existence of unused capacity). Figure 2.50 for instance shows how low interest rates stimulated lending to large and small businesses to finance investment or capital spending. While investment spending in mining has fallen (since the end of the minerals boom a few years ago), that for non-mining has risen, helping to support AD and economic activity.

Growth in population contributed to higher spending

Recently, Australia's rate of population growth has been a bit faster than in some years rising by around 1.6 to 1.7 per cent a year. This has been mostly driven by quite high levels of net migration (over 240 000 in 2018). Overall, this development helped to boost aggregate demand conditions by contributing to household C expenditure and AD. With lower stocks but plenty of spare capacity, population growth did not add to demand inflation (except in the property market). It caused some firms to lift their production. As a result, there was stronger demand for resources by businesses, causing cyclical unemployment to slowly fall, thereby strengthening labour market conditions.

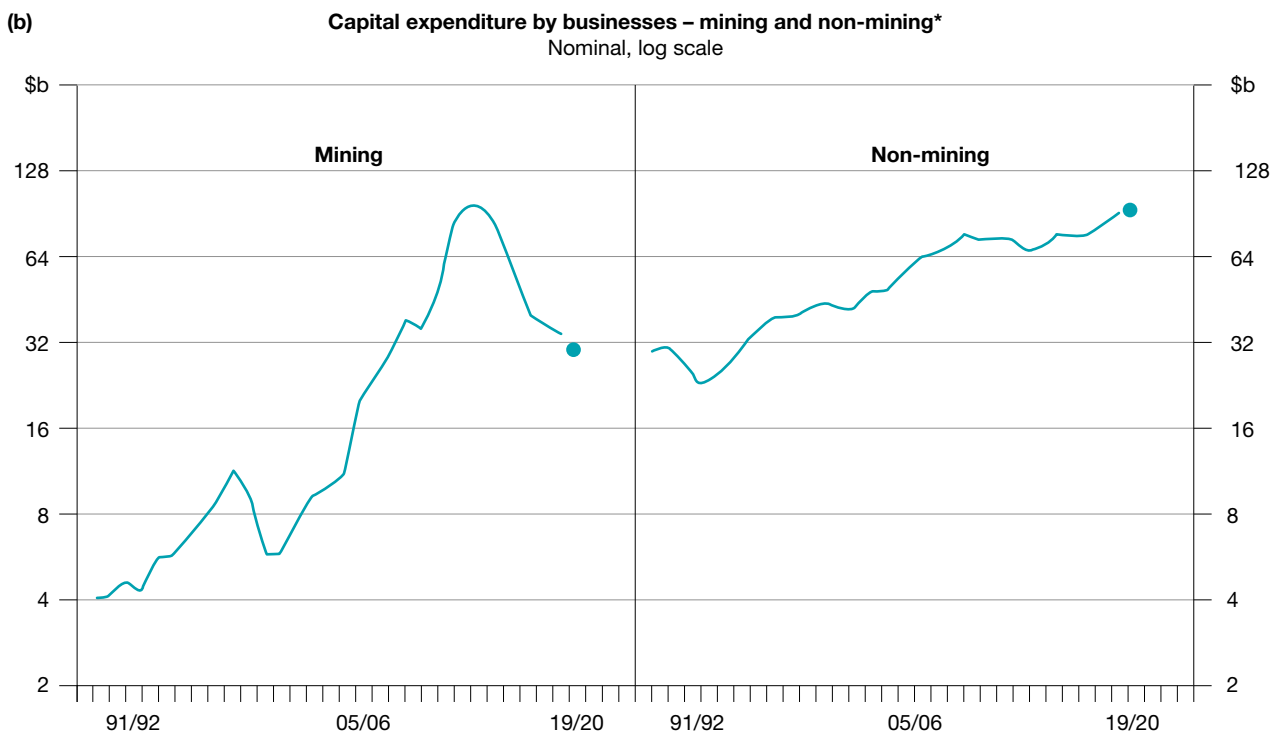


FIGURE 2.50 Trends in the value of bank lending to Australian businesses and business investment spending



* Credit exposures on the balance sheets of banks allowed by APRA to use an internal ratings-based approach for credit risk management

** Large business is the corporate category in APRA's capital framework: small business is the sum of the SME corporate and SME retail categories (the SME categories include businesses that have reported consolidated annual sales of less than \$50 million)



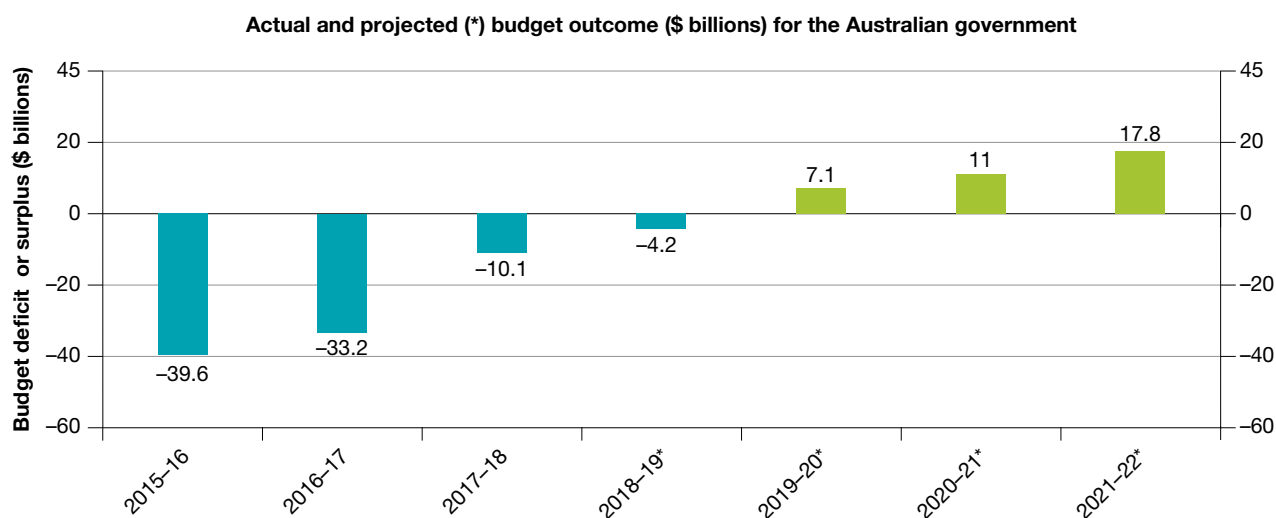
* Dots are firm's expectations for 2019/20, adjusted for historical differences between expected and realised spending

Source: © Reserve Bank of Australia, 2001–2019. All rights reserved.

Less expansionary Australian government budgets slowed spending growth

For a decade, the federal government ran large budget deficits where the total values of government outlays or injections exceeded revenues or leakages. These added to the burden of paying interest on Australia's public sector debt. As a result, there was a pressing need to gradually cut the size of budget deficits and slowly return to surplus. Consequently, as shown in figure 2.51, the last few budgets involved reducing the deficit. In so doing, this tended to slow rises in spending, inflation and economic growth, and kept cyclical unemployment higher than otherwise.

FIGURE 2.51 Actual and projected changes in the size of the Australian government's budget deficit or surplus



Note: * indicates projection at March 2019.

Source: © Commonwealth of Australia 2019.. Australian Government, Budget Papers, Statement 10, 2019.

Reductions in rates of company tax helped to lift private investment spending

Over recent years, the Australian government has announced reductions in the rates of tax on the profits of small and medium-sized companies from 30 per cent prior to 2016 to 27.5 per cent in 2018, eventually coming down to just 25 per cent by 2021-22.

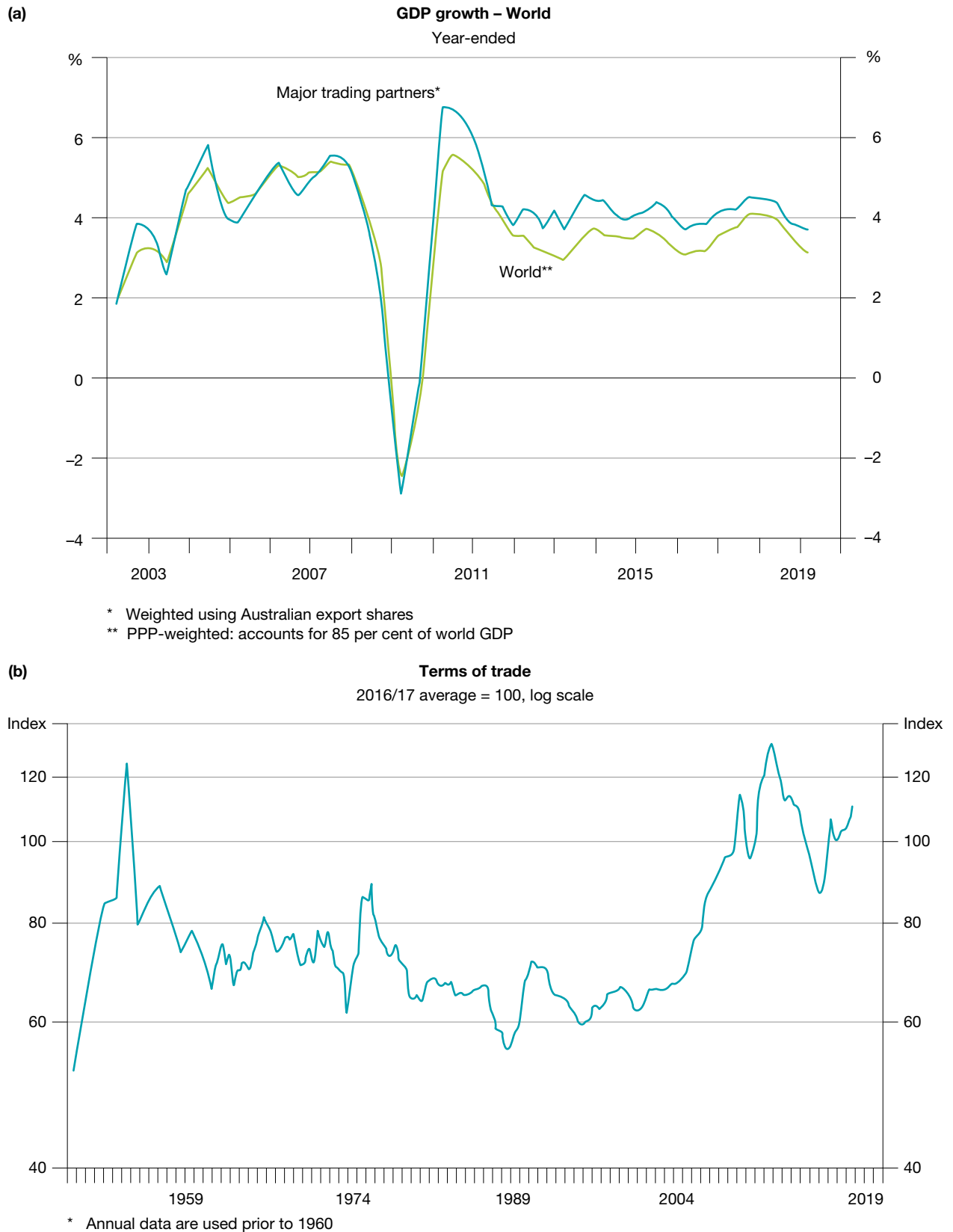
As a stronger aggregate demand factor, it is likely this has helped to boost business confidence and stimulate higher levels of private investment spending (I), lifting AD, economic activity and employment. In this situation, higher investment spending posed no threat to inflation because there was some unused productive capacity available.

Rises in overseas economic activity stimulated spending on our exports

Following the end of the GFC, figure 2.52 shows that world economic activity rose by an annual average of around 3-4 per cent in recent years, as has that for our major trading partners such as China, Japan, South Korea and the United States (even though this has been slower in the last few years than in some previous periods).

Overall, positive economic growth abroad has meant that more resources were needed by our trading partners and others for production. With the rise in global demand this helped to increase the value of Australia's exports of commodities. Recently, as also shown in figure 2.52, this also led to us receiving higher *commodity prices*, thereby lifting the *terms of trade*, adding to the price and value of Australia's exports or injections. Recently, this demand factor also helped to grow AD and GDP, contributing to the reduction in cyclical unemployment and a strengthening of labour market conditions.

FIGURE 2.52 Changes in global economic activity (including Australia's major trading partners) and our terms of trade index



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - World Economy Released on 4 September 2019;
© Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Commodity Prices Released on 4 September 2019.

Review of the recent effects of aggregate demand factors on Australia's domestic macroeconomic conditions

Our review of Australia's recent *aggregate demand factors* showed that there were some forces at work that accelerated AD, while others slowed it. On balance, this helped to generate the following domestic macroeconomic conditions:

- demand inflation remained very low as there was some unused productive capacity
- economic growth was positive, but relatively weak and below trend
- cyclical unemployment fell, but overall, the average was above the target rate
- general living standards did not improve significantly for most people.

2.12.2 Aggregate supply factors that have recently affected Australia's economic conditions and living standards

Over the last two years to 2019, there were also some *aggregate supply factors* that operated to *strengthen* the potential rate of growth in Australia's productive capacity and make conditions more favourable for businesses. These included low interest rates, reductions in company tax rates, negative RULCs and a slow growth in wage costs, cheaper oil and raw materials, along with higher participation rates and a bigger supply of labour. However, unfortunately, the positive impacts of these were partly offset, by some negative factors slowing capacity and AS. Here we might think of the collapse of labour productivity, infrastructure bottlenecks, our ageing population and skills shortages, and climate change associated with severe weather events including drought and cyclones.

On balance, these opposing forces retarded the growth in productive capacity and AS, causing less than ideal economic conditions where the Australian government's three key domestic goals were not fully achieved:

- *Low rates of cost inflation.* Although there were some developments pushing production costs up, fortunately, there were also others that reduced the pressures on local firms to raise prices to protect their profits. This kept cost inflation down.
- *Slower potential rate of economic growth.* Despite some favourable aggregate supply developments, there were other less favourable ones that discouraged businesses expansion, led to closures, slowed the growth in productive capacity and AS and cut the potential rate of economic growth.
- *Some structural and other types of natural unemployment.* Recently, structural unemployment (as the main type of natural unemployment) remained quite high due to Australia's relatively weak international competitiveness, low profits, business closures and relocation, the mismatch of skills to jobs among the unemployed, some government policies, the restructuring of production methods and other changes in aggregate supply conditions.

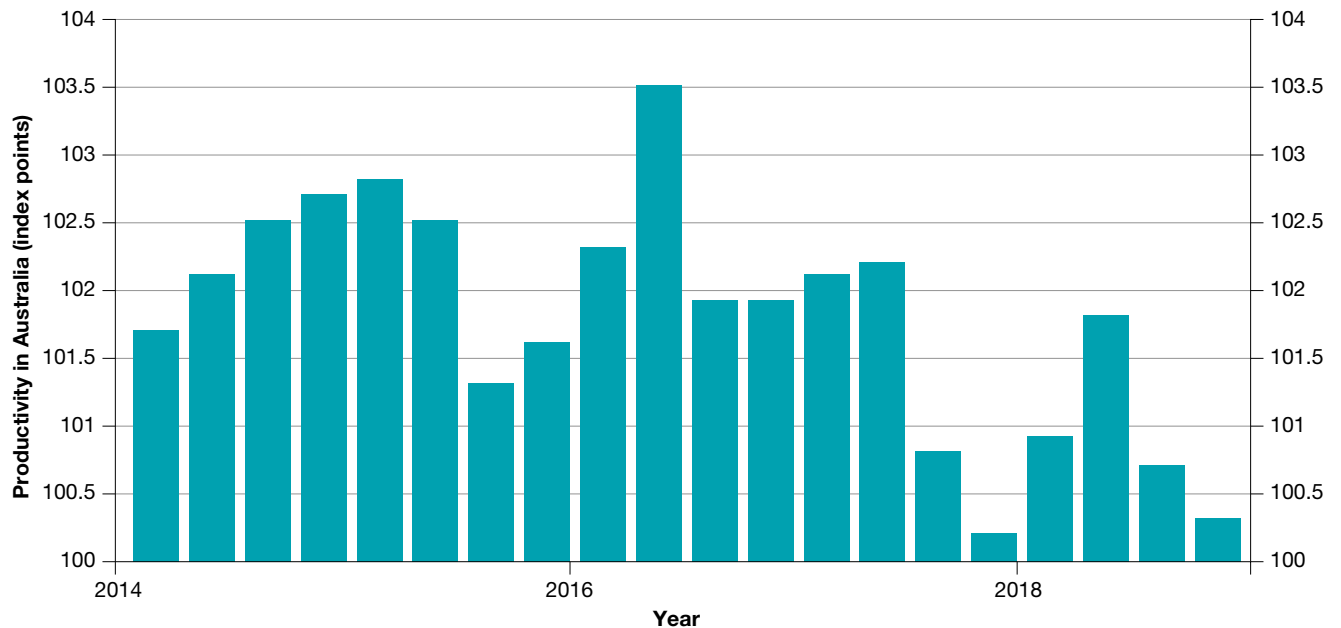
Again, with this background in mind, it is now time to review some of the main *aggregate supply factors* that have recently helped to shape Australia's performance and affected the achievement or otherwise of our *domestic macroeconomic goals*.

Weak productivity growth slowed the rise in productive capacity

Productivity or efficiency bounces around from year to year, as shown in figure 2.53 which measures the annual percentage change in GDP per hour worked. However, overall Australia's average growth in labour productivity has slowed dramatically in recent times to December 2018–19.

This is a less favourable aggregate supply factor. It means that there has been a smaller rise in efficiency or output gained from a given quantity of labour resources. The problem with lower productivity is that production costs rise more quickly, accelerating cost pressures, undermining international competitiveness and eroding business profits. Firms become less willing and able to produce, slowing economic and employment growth. Some businesses may even close down or relocate overseas where wage and other costs are lower — as has happened with Ford, Toyota and Holden car manufacture; Darryl Lea confectionery; Shell oil refinery; Brinton's carpets; Blundstone boots; some Qantas servicing; and aluminium smelting by Alcoa. All this adds to *structural* unemployment.

FIGURE 2.53 Quarterly changes in the index of Australia's labour productivity



Source: Copyright © 2019 TRADING ECONOMICS - Australia Productivity. Source from ABS.

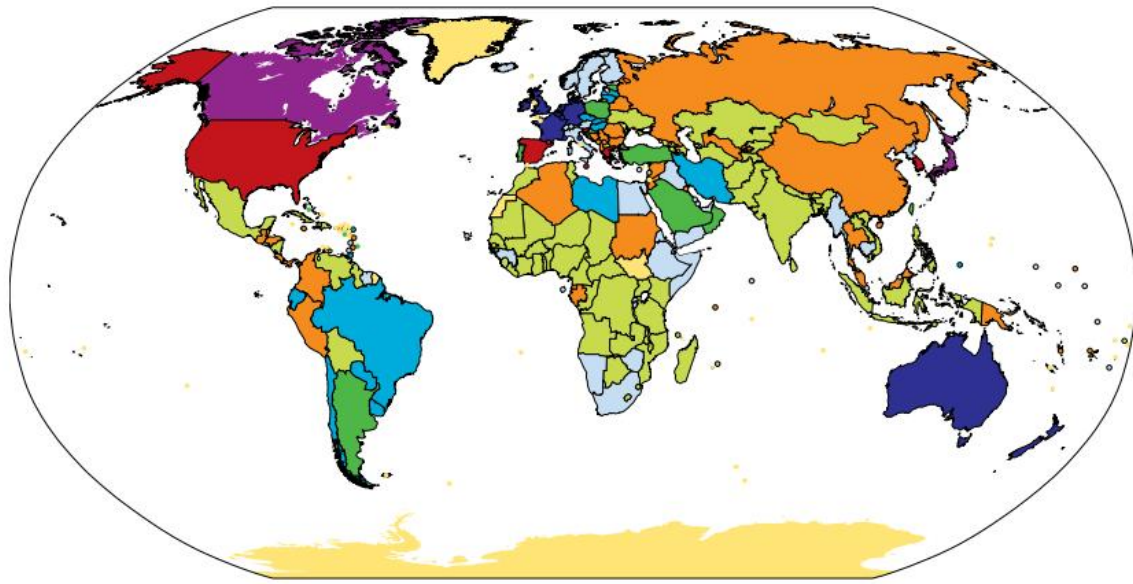
High labour costs, reduced international competitiveness and limited capacity

In absolute terms, Australia is a high-wage country, as illustrated in figure 2.54. Indeed, the minimum wage set annually by the Fair Work Commission (the one-stop-shop for all industrial relations matters including the setting of the minimum wage) places our workers near the top of the list by international standards. In addition, there are numerous on-costs of employing labour, including the superannuation guarantee charge (SGC) — an additional cost currently amounting to 9.5 per cent (rising to 10 per cent for 2021–22) of staff wages that must be paid by firms. Then there are the generous paid annual maternity and paternity leave arrangements, and other guaranteed employment conditions. None of this would be problematic if worker productivity was high by international standards. Unfortunately, it is not. Australian workers on average produce nearly 20 per cent less per hour than US workers, but are paid more than double the average US rate. This adds to real labour costs for local businesses, and contributes to cost pressures. High costs then make us less internationally competitive and erode business profits, discouraging production and slowing economic and employment growth.

Falling RULCs helped encourage the expansion of business capacity

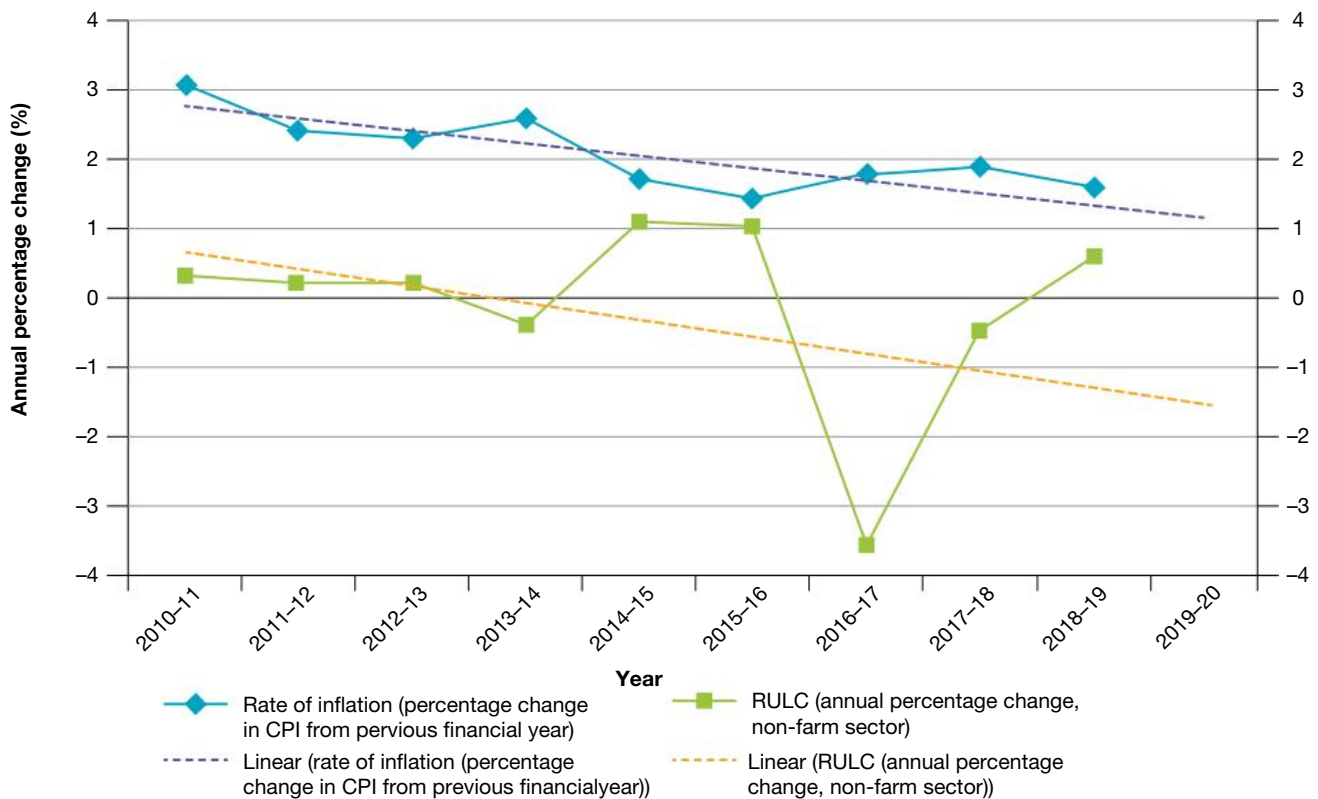
Despite the negative effects on productive capacity of Australia's high wages and low productivity, there is some good news for business. In recent years, the rate of growth in real unit labour costs (RULCs) has been negative (e.g. –3.7 per cent in 2016–17, –0.5 in 2017–18 and –0.6 in 2018–19), as shown in figure 2.55. This should help to reduce cost inflation pressures, improve business profitability and survival, make Australian firms more willing and able to grow productive capacity and expand their operations, and lower structural unemployment.

FIGURE 2.54 International comparisons of minimum hourly rates of pay (US\$)



Source: Graph copied directly from Wikipedia, the free encyclopaedia, https://en.wikipedia.org/wiki/List_of_minimum_wages_by_country

FIGURE 2.55 Relationship between Australia's annual change in real unit labour costs (RULCs) and the inflation rate



Source: Data derived from ABS 5206.0 (Table 3), 6401.0 (Table 1).

Cheap oil and costs of other producer goods encouraged business expansion

In the last few years, the price or cost of producer goods (inputs used by Australian businesses in the manufacture of other goods) have risen slowly. As shown in figure 2.56, for example, oil prices have generally remained low by historical levels in recent years, as have the costs of some other resources used by businesses.

FIGURE 2.56 Recent trends in the cost of crude oil per barrel (US\$)



Source: Copyright ©2019 TRADING ECONOMICS.

This is a favourable aggregate supply factor for users of oil (e.g. Qantas, farmers). It has allowed some firms to produce at a lower cost, thereby keeping cost inflation in check. In addition, reduced costs help to strengthen profits and are thus an incentive for business expansion, and stronger rates of economic and employment growth.

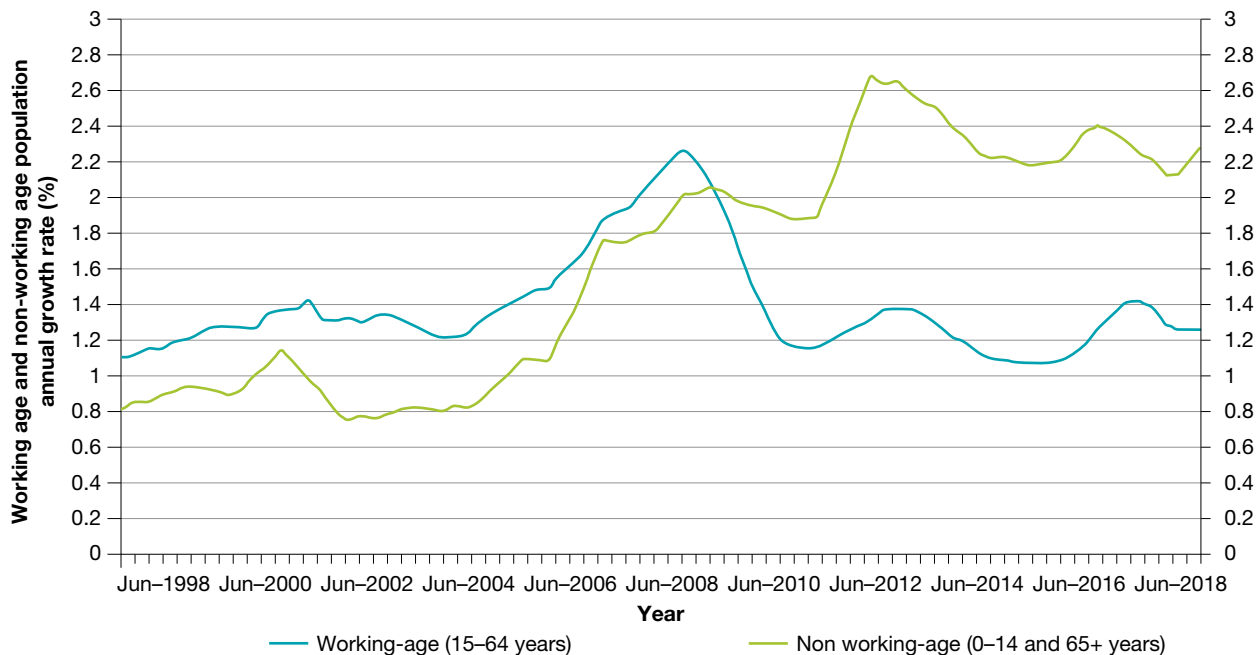
An ageing population and relatively low participation rates limited productive capacity

Australia has an ageing population — there is a rising proportion of people in older age groups (65 and over), than in younger age groups. In the last two decades, the median age rose from 33 to over 37 years, and is projected by the ABS to rise to 40 years by 2040. Figure 2.57 shows that the proportion of Australia's population of non-working age was rising nearly two times faster by June-2018 than that for people of working age, despite the recent rises in the pension access age.

This is a less favourable supply-side factor because it tended to reduce the labour participation rate (the proportion of those aged 15 and over who are economically active as members of the labour force) and the supply of labour resources. Participation fell from a peak of over 67.5 per cent in 2009 to 65.6 per cent in February 2019. The macroeconomic effects of this problem are many. If not addressed, ageing and a reduced participation rate are likely to:

- generate *labour shortages* or bottlenecks that put upward pressure on wages and add to cost inflation pressures
- slow *productive capacity*, limiting the sustainable rate of economic growth
- weaken *government finances* by slowing tax receipts and raising outlays on the aged, leaving less money for the government to spend on the economic and social infrastructure needed to grow Australia's productive capacity.

FIGURE 2.57 Trends in the annual growth rate of Australia's population of working and non-working age.



Source: Graph copied directly from the ABS, 3101.0.

Climate change and severe weather events slowed productive capacity

In recent years, there has been a lot of publicity about *climate change* caused partly by the release of carbon dioxide emissions into the atmosphere. This has resulted in global warming, that for Australia, has meant an increase in the occurrence and intensity of severe weather events including bushfires, floods, cyclones, hailstorms, tidal surges, heatwaves and droughts. For instance:

- 2019 — the three years of drought in eastern Australia to 2019 slowed the growth in GDP by 0.75 per cent or around \$12.5 billion
- 2019 — the tropical storm and floods around Townsville, Queensland, in January to February led to farming and other losses of almost \$1 billion
- 2017 — Cyclone Debbie hit Queensland and resulted in \$1.5 billion in lost coal exports due to the flooding of mines and destruction of rail and port infrastructure, along with a \$1.5 billion repair bill for the state government, over \$120 million in lost tourism and \$270 million of lost sugar cane production
- The *Garnaut Review* on climate change put the annual cost of unmitigated climate change on Australia's infrastructure at around \$9.0 billion per year (equal to 0.5 per cent of GDP) by 2020, rising to \$40 billion by 2050.



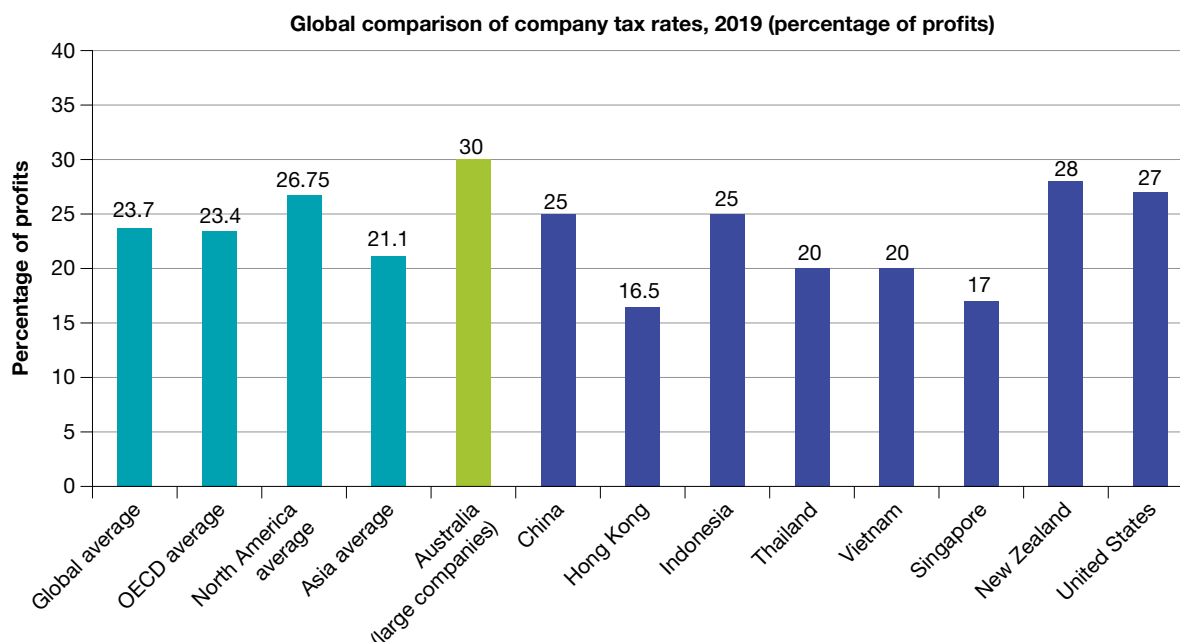
As can be seen, these less favourable aggregate supply conditions have recently limited the growth of Australia's productive capacity by destroying public infrastructure like roads, power and rail systems, along with farms, mines and other industries such as tourism, in the affected regions.

Regrettably, the Australian government, businesses and the general public have not adequately addressed the critical issue of climate change and its negative impacts on productive capacity and society's overall wellbeing.

Reductions in company tax rates helped to encourage the expansion of business capacity

Figure 2.58 shows that Australian businesses pay higher rates of tax on their profits compared with firms in similar countries abroad. For large Australian companies, the current rate is 30 per cent.

FIGURE 2.58 International comparisons of company tax rates (percentage of profits)



Source: © 2019 KPMG International Cooperative.

However, as shown in table 2.8, the Australian government has recently implemented several reductions in the rate of company tax paid by small and medium-sized businesses, with cuts to be phased in over the next few years.

TABLE 2.8 Recent and upcoming reductions in Australian company tax rates

Year	Company annual turnover threshold	Tax rate for companies under the threshold	Tax rate for large companies
2017–18	\$25 m	27.5%	30.0%
2018–19 and 2019–20	\$50 m	27.5%	30.0%
2020–21	\$50 m	26.0%	30.0%
2021–22	\$50 m	25.0%	30.0%

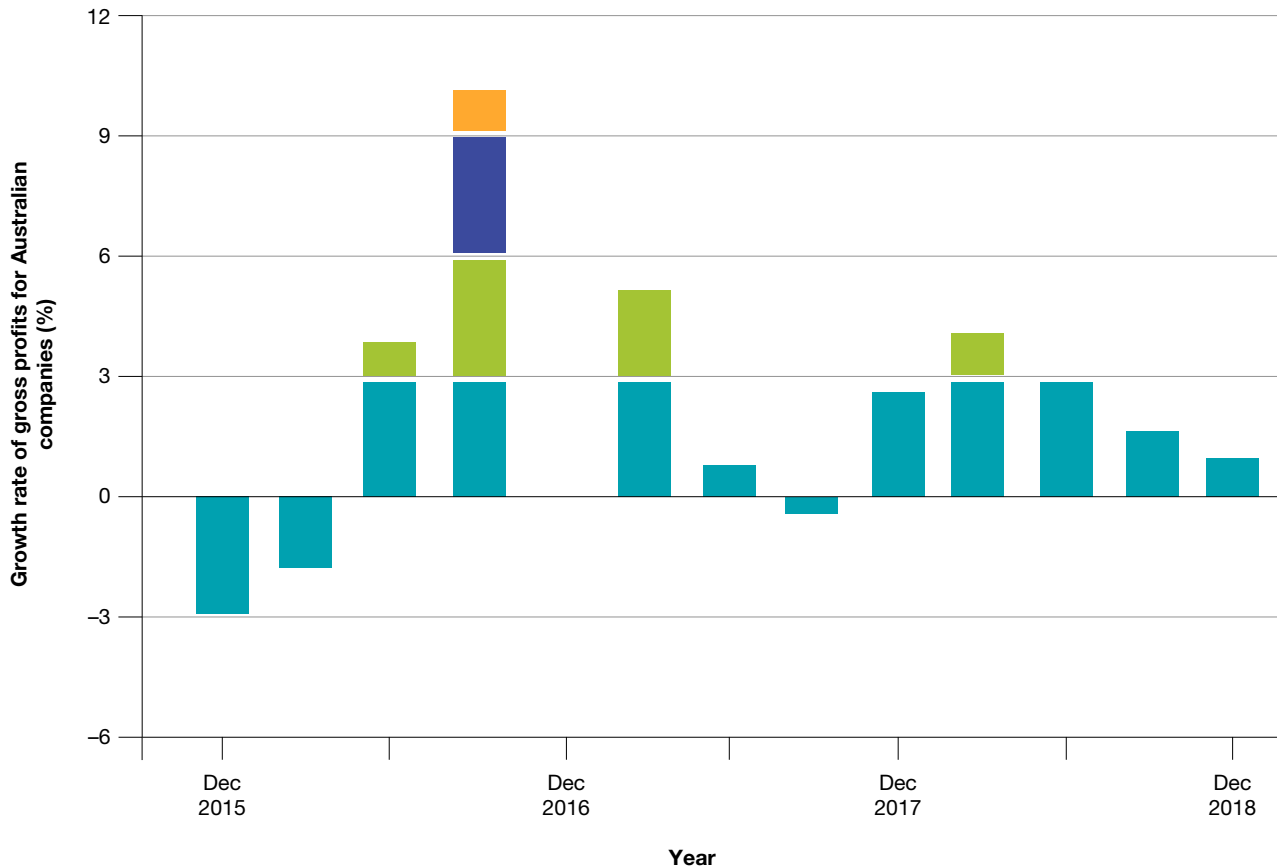
Source: Australian Taxation Office.

Essentially, reducing the corporate tax rate is seen as a more favourable aggregate supply factor. It should help lift the after-tax profits of Australian businesses, and boost the ability, incentive and willingness to start up and expand operations. It should also help to make local firms more internationally competitive and reduce the number closing down. This should reduce structural unemployment. In these ways, lower company tax rates should help grow Australia's productive capacity, aggregate supply and potential GDP, thereby promoting domestic macroeconomic goals.

Higher bankruptcies and lower profitability have slowed productive capacity

According to the ABS data shown in figure 2.59, recently there has been a sharp downward trend in the gross operating pre-tax profits of Australian incorporated businesses between December 2016 and December 2018.

FIGURE 2.59 Trends in the quarterly growth rate of gross profits for Australian companies



Source: © Australian Bureau of Statistics.

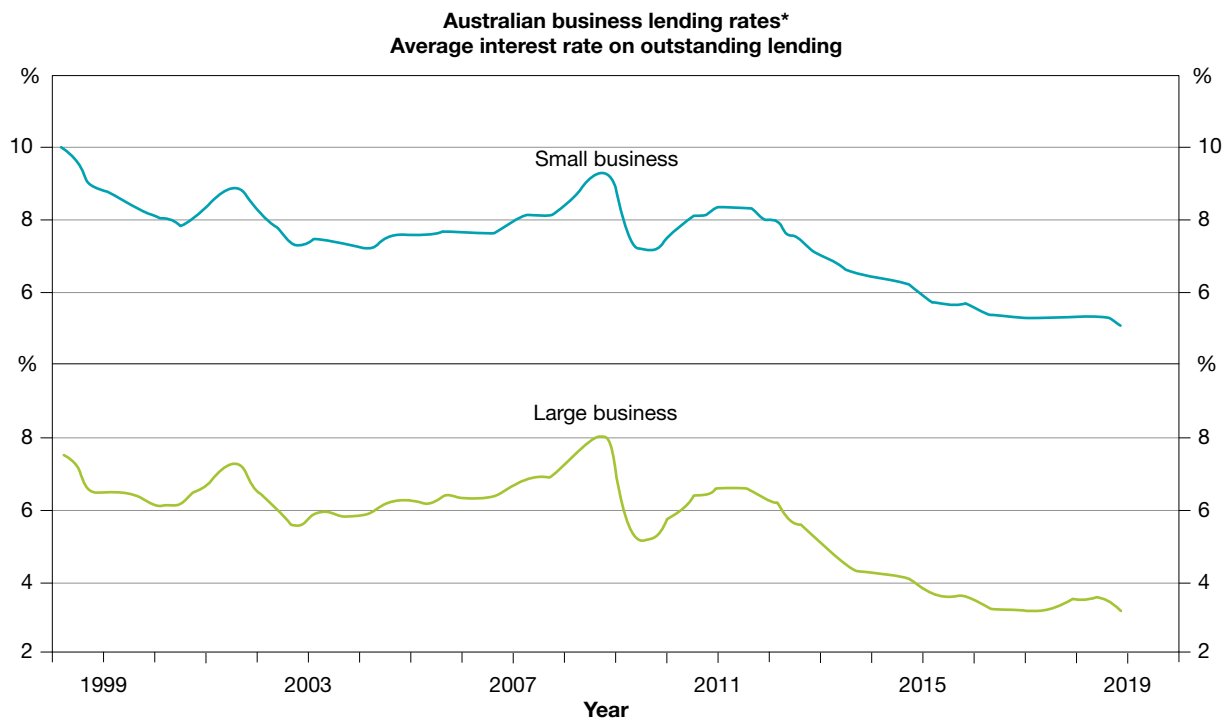
This slower growth in profits was also accompanied by higher bankruptcy rates. As unfavourable aggregate supply factors, these tended to reduce productive capacity, and force some businesses to close, adding to Australia's structural unemployment. However, cuts to the rate of tax on the profits made by small to medium-sized companies should help to offset this problem, creating better aggregate supply conditions.

Low interest rates for businesses borrowing credit helped to grow productive capacity

Interest rates can be seen as an aggregate supply cost factor (as well as an aggregate demand factor affecting spending). This is because many firms borrow money from banks to finance their operations. Figure 2.60 shows that recently during 2018 and 2019, interest rates charged to businesses borrowing credit from Australian banks fell to historic lows of between 3.5 and 5.5 per cent.

In turn, lower borrowing costs for businesses have helped to keep profits up. In so doing, cheap credit should help to reduce business closures and structural unemployment, and encourage the expansion of productive capacity and the creation of new jobs. Recent low interest rates in Australia relative to those overseas in say the United States, have also kept our exchange rate lower than otherwise at least to mid 2019, making local firms more internationally competitive, and fostering economic growth and jobs.

FIGURE 2.60 Recent trends in Australian interest rates charged to businesses borrowing from banks



* RBA estimates

Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Interest Rates Released on 4 September 2019.

Large bottlenecks in national infrastructure limit productive capacity

Australia has a large stock of ageing economic infrastructure that has not kept up with our population growth. Bottlenecks exist in some key areas such as water supply, electricity, gas, road and rail transport, shipping and airport facilities, and telecommunications. By reducing efficiency, these infrastructure shortages added to business costs and made local firms less competitive internationally, leading to closures. They also limited our productive capacity and the sustainable rate of economic growth in mining, agriculture, manufacturing and trade, and have in part been caused by a lack of adequate government funding due to the weakened budget situation. Recently, however, the federal government has been in catch up mode and has tried to reduce some of these bottlenecks.



The 2019–20 budget, for instance, revealed that \$100 billion would be spent on national infrastructure building projects in the next 10 years, up \$25 billion from the previous year. A further \$5 billion in concessional loans to the private sector undertaking such projects in northern Australia was promised in the 2015 budget. All this is on top of the massive \$51+ billion national broadband network (NBN) that will continue to be rolled out to 2021. The message here is that it is not all bad news with regards to infrastructure bottlenecks. These government projects should help to improve aggregate supply conditions that encourage business efficiency, and grow the economy's competitiveness, productive capacity, AS and potential GDP.

Review of the recent effects of aggregate supply factors on Australia's domestic macroeconomic conditions

As can be seen from reviewing Australia's recent *aggregate supply factors*, there were some forces at work that lifted productive capacity and AS, while others slowed it. On balance, this helped to generate the following impacts on the government's domestic macroeconomic goals:

- cost inflation remained very low
- economic growth was positive, but well below trend
- structural unemployment continued to exist
- general living standards for most people did not greatly improve.

2.12 ACTIVITIES

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Check your understanding

1. Identify and explain the *three* key domestic macroeconomic goals pursued by the Australian government.
2. Outline the recent *trend* in each of Australia's three key domestic macroeconomic areas during the last two years:
 - (a) rate of inflation
 - (b) rate of economic growth
 - (c) rate of unemployment.
3. Identify and outline three important *aggregate demand-side* and three key *aggregate supply-side* influences affecting trends in these indicators during the last two years:
 - (a) rate of inflation
 - (b) rate of economic growth
 - (c) rate of unemployment.

Applied economic exercises

1. (a) Describe trends in each of the following government domestic macroeconomic economic goals during the last two years, indicating whether the government's goal has been achieved:
 - i. inflation
 - ii. economic growth
 - iii. unemployment.

(3 marks)
- (b) Identify two factors (*one* domestic and *one* international aggregate demand factor) and explain how each is likely to have affected the government's three domestic macroeconomic goals over the last two years.

(4 marks)
- (c) Identify the two most important aggregate supply factors and explain how each is likely to have affected the government's domestic macroeconomic goals over the last two years.

(4 marks)
- (d) How would you expect the trends in the government's domestic macroeconomic goals to have affected Australian living standards over the last two years?

(4 marks)

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2.13 Review

2.13.1 Summary

The concept of living standards

- *Material* living standards relate to our economic wellbeing or the *quantity* of goods and services as determined by our access to and annual consumption of goods and services.
- Material living standards are sometimes measured by:
 - national production (GDP) per head per year
 - income levels per person per year
 - consumption per person per year and also need to consider how evenly goods and services are distributed between individuals in our country.
- *Non-material* living standards affect the *quality* of our lives and may be affected by:
 - freedom
 - equality of opportunity
 - amount of leisure time relative to work hours
 - job satisfaction and security
 - life expectancy and physical and mental health
 - happiness and stress levels
 - clean natural environment and lack of pollution and congestion
 - low crime rates.

Attempts to improve material living standards by increasing national production (GDP) per head may lower non-material living standards through reduced leisure time or environmental degradation (there is a trade-off). In addition, attempts to protect the environment and non-material living standards may undermine material living standards.

What is economic activity?

- ‘Market’ or economic activity involves production by firms and individuals that is actually sold for profit and included in GDP. Most non-market activity is excluded from the data.
- Productive activity as measured by GDP ignores the huge contribution to real production that is undertaken in households engaged in *non-market activity*, such as home duties and do-it-yourself household repairs.
- The *level of domestic economic activity* describes the general pace at which an economy is producing goods and services.
- The level of economic activity also affects the levels of inflation and unemployment.
- Economic activity impacts on our current and future living standards (both material and non-material).

The five sector circular flow model of an economy

- The macroeconomic *five sector circular flow model* of the Australian economy can illustrate how economic activity takes place and how the different sectors (household, business, financial, government and external sectors) of the economy interact with each other.
- Using this model, short- to medium-term changes in the level of domestic economic activity at the macroeconomic level respond to changes in *aggregate demand*, which reflects the value of leakages relative to injections. However, *aggregate supply* factors such as the availability and efficiency of resources also have an impact on the potential level of economic activity.

The economic cycle

- Over a period of years, the level of domestic economic activity typically goes through *four main phases* which together make up what is called the economic or *business cycle*.
- The phases of the business cycle diagram include: recovery (expansion), peak (often a boom), contraction (slowdown) and trough (often a recession).
- As the economy moves through the business cycle, economic conditions, such as economic growth in GDP, unemployment and inflation, also change.

- The *ideal* situation, where living standards are likely to be maximised, occurs in a state of *domestic economic stability* in which there is simultaneously, strong and sustainable economic growth (around 3 per cent per year), low inflation (an average rise of around 2–3 per cent per year) and full employment (an unemployment rate of around 4.5–5 per cent of the labour force).
- It is also possible for the economy to experience the adverse situation of *stagflation*, which is a slow or no rise in GDP, rapid cost inflation and high structural unemployment, due to adverse aggregate supply factors.

Measurement of the level of economic activity

- The main aggregate measure of domestic economic activity is chain volume GDP.
- Chain volume GDP as a measure of economic activity and living standards does (material and non-material) have many weaknesses. For example:
 - Some items that are included must be imputed or guesstimated.
 - It excludes most *non-market activity* and so underestimates the actual quantity or volume of goods and services available for consumption.
 - It excludes considerations of *negative externalities* associated with production and consumption.
 - It does not take into account the *hours worked* or loss of leisure time to generate the rise in production.
 - It does not take into account how evenly the goods, services and incomes are *distributed* among individuals.
- Per capita GDP, consumption or income are only very rough measures of material living standards (and tell almost nothing about non-material living standards).
- Indicators of economic activity are classified into *leading*, *coincident* and *lagging* indicators.

Factors affecting the level of economic activity

- Recent experience in Australia over the past few years shows us that *the level of domestic economic activity is unstable*. This is the result of the impact of both *aggregate demand factors* and *aggregate supply factors* or conditions affecting levels of aggregate demand, aggregate supply and, ultimately, material and non-material living standards.
- *Aggregate demand factors* (emphasised first by John Maynard Keynes) alter expenditure levels on GDP or aggregate demand ($C + I + G + X - M$) and account for instability.
- Aggregate demand factors include consumer confidence, business confidence, disposable income, terms of trade, interest rates, budgetary policy, the exchange rate and overseas economic conditions.
- Aggregate demand factors can cause cyclical changes in production, unemployment, inflation and the trade balance, sometimes for the better, other times for the worse.
- *Aggregate supply factors* affect a nation's productive capacity or potential GDP, and the longer term speed limit for economic activity, by altering the ability (capacity) and willingness (motivation) for firms and individuals to produce goods and services.
- Aggregate supply factors include the volume and efficiency of resources (e.g. including skilled labour, capital equipment and technology, climatic conditions and labour productivity), production costs (e.g. wages, interest rates, raw materials, transport, power and water), company tax rates and business profitability.
- Domestic economic activity may *rise* partly in response to generally *stronger aggregate demand conditions* (at least up to the point where full productive capacity is reached) or following the onset of more *favourable aggregate supply conditions* for producers. The reverse can occur if aggregate demand weakens or aggregate supply conditions become less favourable.

Recent trends in Australia's level of economic activity

- Due to the sometimes volatile nature of aggregate demand factors and aggregate supply-side factors, the Australian economy has experienced both ups and downs in the *level of domestic economic activity*. However, during the last few years to 2019, the pace of domestic economic activity has been *below trend* due to headwinds including a combination of generally weaker aggregate demand conditions and some less favourable aggregate supply conditions.

Using the AD–AS diagram to show how the level of economic activity may change

- The impact of changing aggregate demand conditions (such as consumer confidence, overseas economic conditions and interest rates) and aggregate supply conditions (e.g. labour productivity, RULCs, tax rates, the participation rate, drought and floods, immigration, quality of infrastructure, oil prices and business profitability) can be illustrated on an *aggregate demand–supply diagram*.
- When these aggregate demand and aggregate supply conditions change, the equilibrium level of national production (economic activity or GDP), employment and prices that exist in an economy are altered.

The Australian government's key domestic macroeconomic goals and living standards

- The Australian government actively pursues *three core domestic economic goals* in an effort to ultimately increase economic stability and improve our living standards (material and non-material). These domestic macroeconomic goals include:
 - low inflation (price stability)
 - strong and sustainable economic growth
 - full employment.

The goal of low inflation (price stability)

- The *goal of low inflation* (also called *price stability*) means achieving a slow annual inflation rate averaging around 2–3 per cent over the medium term or economic cycle.
- Unfortunately, inflation sometimes exceeds this target due to *two* causes:
 - *Demand inflation* can be caused by excessively strong demand side conditions or aggregate demand, causing widespread shortages of goods and services in a fully employed economy.
 - *Cost inflation* is caused by rising production costs and less favourable supply-side conditions for businesses that flow on to higher consumer prices as firms try to protect their profits.
- The inflation rate is measured by the *consumer price index* or CPI, which looks at the average weighted price change in a basket of goods and services typically purchased by metropolitan households. However, there are limitations to the accuracy of this measure.
- Recently, Australia's inflation rate has been low; averaging around 1.7 per cent per year, well below the RBA's inflation target range of 2–3 per cent.
- Both aggregate demand factors (such as consumer confidence, terms of trade and overseas activity) and aggregate supply factors (such as labour productivity, RULCs, tax rates, drought, oil prices and the exchange rate) have affected recent trends in Australia's inflation rates.
- A high rate of inflation mostly has negative effects on living standards because it can slow economic growth and employment, weaken our competitiveness and trade balance and cause greater inequality in the distribution of income.

The goal of a strong and sustainable rate of economic growth

- The *goal of strong and sustainable economic growth* means the fastest rate of growth in national production — averaging around 3 per cent a year — that is consistent with achieving other government economic goals (including external competitiveness, full employment, equity in income distribution and low inflation) and environmental goals (it takes into account the impact on future generations).
- Economic growth is measured by the *chain volume gross domestic product*, where the effects of price changes on the value of national production have been statistically removed, thereby facilitating comparisons between different years.
- Chain volume GDP as a measure of economic growth has a number of important limitations:
 - It *excludes* the value of household *non-market activity* and the cash economy.
 - The value for the production of some important items that are included in GDP must be *imputed*, leading to error.
 - There is potential error associated with excluding the impact of *price changes* on the value of production.

- It fails to take account of *negative externalities*, changes in product quality or hours worked to generate a given level of output.
- Two sets of factors determine the rate of economic growth.
 - *Aggregate demand factors* (e.g. consumer confidence, the household savings ratio, business confidence, the Australian dollar, terms of trade, disposable income and overseas economic activity) can determine the timing of cyclical booms and recessions, and the extent to which the economy's productive capacity is actually used, thus affecting the rate of economic growth.
 - *Aggregate supply factors* (e.g. the age distribution of the population, drought, tax rates, interest rates, productivity, profitability and wage costs, oil prices and other costs) can alter the sustainable speed limit and long-term productive capacity of the economy, and the willingness of firms to expand and increase production or supply. Improved supply-side efficiency means that more output can be produced from the same inputs or resources, improving material living standards.
- During the past two years, Australia's average rate of economic growth has been slower and well below trend, averaging around 2.5 per cent a year.
- Failing to achieve strong and sustainable rates of economic growth has mostly negative effects. For instance:
 - Very *weak* rates of economic growth are economically unsustainable and might lead to generally higher unemployment, falling incomes, lower material living standards, weaker budget outcomes and a reduced ability of the government to provide welfare and public goods and services.
 - Excessively *strong* and *economically* unsustainable rates of GDP growth might weaken the trade balance, add to inflation, reduce purchasing power for individuals and lead to lower material living standards. In addition, excessively strong rates of growth are *environmentally* unsustainable and can lead to negative externalities and lower non-material living standards.

The goal of full employment

- The *goal of full employment* currently involves achieving the lowest rate of unemployment, perhaps around 4.5–5 per cent of the labour force, that does not cause inflation to accelerate (NAIRU) or undermine other government goals.
 - This target rate means having no cyclical unemployment caused by weak aggregate demand conditions, deficient levels of AD or recession.
 - The government's current target of an acceptable unemployment rate of about 4.5–5 per cent recognises the partially unavoidable existence of a low level of *natural unemployment* (NAIRU) caused by structural (the main cause), frictional, seasonal and hard-core factors, and changing aggregate supply-side structural conditions.
- The unemployment rate, along with other labour market indicators (such as the under-utilisation rate, participation rate, job vacancies, duration of unemployment and youth unemployment), is measured by means of the ABS labour force survey.
- The ABS unemployment statistics can be *misleading* because:
 - *hidden unemployment* is not measured causing the real rate of unemployment to be an underestimation
 - the *definitions* of employment and unemployment are somewhat arbitrary (e.g. it counts as employed those who work for more than one hour per week for pay)
 - there may be a change in participation rates, along with part-time or casual work that affect the unemployment rate
- Over recent years, aggregate demand factors and aggregate supply factors have changed, thereby affecting the trends in Australia's overall unemployment rate. Recently, although unemployment has fallen, it has still been above the government's target, averaging around 5.3 per cent of the labour force. Today, although there is still some cyclical unemployment caused by weak levels of AD, but the main cause of Australia's unemployment rate is aggregate supply structural changes (i.e. structural unemployment reflecting changes in the way goods and services are made and sold).

- Failure to achieve the goal of full employment when unemployment is too high negatively impacts on most other government economic goals (especially economic growth, equity in income distribution and material living standards) and weakens the government's financial position (by reducing tax revenue, increasing welfare outlays and adding to the budget deficit). In addition, it erodes non-material living standards by reducing self-esteem, health, happiness and family cohesion, and even has the potential to lead to higher crime rates and social isolation.

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2.13.2 Key terms

Aggregate demand (AD) represents the sum of spending on goods and services produced by a nation over a year. It is made up of $C + I + G + X - M$.

Aggregate demand factors are the macroeconomic influences that determine the level of spending or AD at various price levels, in turn affecting the cyclical level of economic activity. For example, they include consumer confidence, business confidence, the terms of trade, interest rates, the budget outcome, the exchange rate for the Australian dollar and overseas economic conditions.

Aggregate demand–supply diagrams are used to illustrate the key sets of influences or factors affecting spending and productive capacity and their impact on an economy's equilibrium level of GDP or economic activity.

Aggregate supply (AS) is the total or combined supply of all types of goods and services produced at different price levels over a period by the nation's businesses. It is especially affected by the availability of a nation's resources and the efficiency with which these resources are used.

Aggregate supply factors are the main determinants of a nation's productive capacity or potential level of GDP (e.g. quantity and productivity of resources), especially in the long term. They involve changes in the volume and/or efficiency of resources.

Boom A period of strong spending and above-average levels of economic activity, usually associated with rapid demand inflation and very low unemployment.

Business confidence or expectations relate to the level of optimism or pessimism by a firm about its future sales and profits. It affects the level of business investment spending.

Business cycle refers to the wave-like ups (recovery and boom) and downs (slowdown or recession) in a nation's level of production or economic activity. There are *four* main situations — the expansion, the peak (perhaps a boom), the contraction and the trough (perhaps a recession). It shows both the short-term cycle as well as the long-term trend in economic activity.

Chain volume GDP refers to the market value of goods and services produced by Australia, adjusted to remove the effect on the value of national production caused by changes in prices against a reference year.

Consumer confidence or expectations describe the level of household optimism or pessimism about future employment prospects and income. This especially affects the levels of saving and consumption spending.

Consumer price index (CPI) is a measure of inflation or the average level of prices of a basket of goods and services purchased by typical metropolitan households.

Cost inflation exists when cost rises are passed on by firms as higher prices to protect their profit margins.

Current account deficit (CAD) refers to the total value of current payments (debits) for goods, services, primary incomes and secondary incomes exceeding the total value of equivalent credits.

Cyclical unemployment is the loss of jobs due to weak aggregate demand conditions, a lack of AD and a downturn in economic activity or recession.

Demand inflation typically occurs in a boom when spending (demand) outstrips production (supply) and there are widespread shortages of goods and services.

Depression refers to a large economic downturn in production or GDP associated with very high cyclical unemployment, and is caused by a significant fall in aggregate demand.

Disguised unemployment is when an individual has a job but is underemployed and not working to capacity. ▶

Disposable income is spendable income after receiving government welfare and paying personal income tax.

Domestic economic stability is a desirable or ideal level of economic activity where, *simultaneously*, there is low inflation, a strong and sustainable rate of GDP growth and low unemployment.

Economic activity refers to the actions of individuals, firms and governments that help to generate the production of goods and services, employment and incomes.

Economic infrastructure represents capital goods such as roads, railways, power, gas, telecommunications, water and ports needed by firms to produce other goods and services. It can be provided through government investment, by the private sector or by public-private partnerships. In addition, there is social infrastructure involving the provision of schools and health systems for the community.

Employment is when people aged 15 and over have a paid job and work for more than one hour per week.

Exchange rate is the price or value of our currency when swapped for other currencies. It can be measured against individual currencies for each country or against a basket of key currencies each weighted by its relative importance to Australia in trade (called the trade weighted index or TWI).

Five sector circular flow model of an economy illustrates how the Australian economy works and how its different parts are interrelated. Additionally, it identifies some of the macroeconomic variables affecting our country's domestic economic conditions.

Goal of full employment means the lowest rate of unemployment, perhaps around 4.5–5 per cent that will not cause inflation to accelerate (NAIRU). Here, there would be no *cyclical unemployment* due to weak AD or recession. However, at least 5 per cent of the labour force would be naturally unemployed due mostly to structural causes and other changes in aggregate supply conditions.

Goal of low inflation is achieved when the general level of prices for consumer goods and services are increasing fairly slowly, within the current RBA target range of 2–3 per cent a year on average, over the duration of an economic cycle, consistent with achieving other government goals.

Gross domestic product (GDP) is an estimate of the value of economic activity. It represents the total annual value (\$) of final goods and services produced by a nation measured over a period of time such as three months or a year.

Hidden unemployment refers to the number of individuals who would like a job but have been discouraged by a lack of success and have given up looking for work. Because these individuals are not 'actively looking for work', they are therefore not recorded by the ABS in official statistics.

Inflation occurs when the prices paid for a wide range of goods and services are generally rising.

Interest rates represent the cost or price of credit expressed as a percentage.

Job vacancies are job offers advertised by firms looking for staff to fill them. They reflect the demand for labour.

Labour force includes people over 15 years old who are able and willing to work and are either employed or unemployed.

Lagging indicators show changes in economic activity some time after the event has occurred because they take time to collect and process data and/or respond to changes in economic activity (e.g. GDP).

Leading indicators allow economic forecasts or predictions to be made about the likely future level of economic activity (e.g. consumer confidence).

Level of economic activity simply describes the general *pace* or *speed* at which productive activity is occurring nationally. Typically, activity levels change from a peak through a contraction to a trough and then a recovery.

Living standards refer to how well off a nation is overall. Living standards are affected by both material aspects (the quantity of goods and services consumed per person) and non-material aspects (e.g. quality aspects of daily life).

Material living standards refer to the economic wellbeing of individuals as affected by the quantity of goods and services consumed per person per year. Clearly this is largely determined by the level of income per person per year.

Measuring Australia's Progress (MAP) consists of a set of statistical measures broken into four main categories (including the economy, society, governance, and the environment) to determine whether life is getting better in Australia.

Natural unemployment is the lowest rate of unemployment, perhaps currently around 4.5–5 per cent of the labour force that does not cause inflation to accelerate. Some natural unemployment is unavoidable, even in a healthy economy. It occurs due to the existence of structural, frictional, hard-core and seasonal factors causing unemployment and is associated with aggregate supply conditions.

Non-market activity consists of production that is not actually sold and occurs mostly within individual households, such as personal housework and gardening, or the black market. Its value is not included in GDP making GDP an underestimation.

Non-material living standards are subjective but refer to the quality of daily life. They could be affected by the amount of leisure time, happiness, life expectancy and health, crime rates and quality of the natural environment.

Participation rate represents the proportion of those people aged 15 and over who are members of the labour force; that is, employed and unemployed.

Purchasing power is the actual quantity of goods and services that incomes will buy, after allowing for the effects of changing prices.

Real unit labour costs (RULCs) represent the average level of wages and on-costs per unit of output produced compared with trends in average prices received by businesses for output sold.

Recession A period of two or more negative quarters (6 or more months) of GDP growth caused by lower AD and is associated with high levels of cyclical unemployment and low inflation.

Regimen Used to compile the CPI, and refers to the basket containing various types of goods and services whose price changes are measured. The CPI contains over 100 000 items broken into 11 groups (e.g. including food, housing, health).

Stagflation is a period of slow GDP growth (stagnation) along with high structural unemployment and rapid cost inflation. It reflects less favourable aggregate supply conditions.

Structural unemployment is unemployment caused by changes in the way goods and services are produced and sold. It reflects changes in aggregate supply factors affecting business costs, profitability, the use of new technology, the mismatch of skills possessed by the unemployed with the job vacancies sought by business, business rationalisation or cost cutting, business relocation and some government aggregate supply policies.

Terms of trade is an aggregate demand factor. It represents the ratio of the average prices we receive for our exports relative to the average prices we pay for imports of goods. A rise in Australia's terms of trade is said to be favourable because the world is prepared to pay us higher prices for our exports relative to the prices we pay for imports. This tends to increase the value of exports relative to imports, thereby increasing net injections and AD. Put another way, a given unit of exports will pay for a greater quantity of imports.

Trade weighted index (TWI) is an overall guide to the value of the Australian dollar measured against a basket of other currencies, each weighted according to their relative importance in Australia's trade.

Underlying inflation rate can be measured by removing from the headline CPI regimen volatile items affected by one-off events, such as some fresh food items, in order to obtain an inflation rate that is more truly reflective of ongoing or core changes in the level of prices.

Underutilisation rate is the *extent* to which the available labour is not working at its capacity. This is equal to the unemployment rate *plus* the underemployment rate.

Unemployment is when those aged 15 and over who are actively looking for work cannot find a job.



Resources



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2.13 Review questions

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2.13 Exercise 1: Multiple choice questions

1. Which statement is *false*? Overall living standards involve:
 - A. consideration of the volume of material goods consumed each year.
 - B. consideration of the volume of services consumed each year.
 - C. consideration of non-material aspects like the amount of leisure time, happiness, the health of the environment and personal freedom.
 - D. all of the above aspects.

2. The building of new freeways and tunnel in Melbourne may:
 - A. add to material living standards.
 - B. increase leisure time for some people, improving non-material living standards.
 - C. jeopardise the health of local residents, encourage the use of private cars and add to carbon dioxide emissions that reduce non-material welfare.
 - D. all of the above aspects of living standards may be affected by the decision to build a new freeway.
3. *Economic activity* generally refers to:
 - A. the inflation rate.
 - B. all types of production by households for their own use, such as do-it-yourself gardening, cleaning, ironing and cooking.
 - C. the consumption of goods and services.
 - D. the process of production whereby resources are converted into goods and services, most of which are sold in the marketplace.
4. *Economic activity* (measured by chain volume GDP) would normally include:
 - A. the value of home duties like making your bed or washing the family car.
 - B. the value of non-declared, black market production involving illegal gambling and illicit drugs.
 - C. the value of services of an unpaid or honorary netball or football coach.
 - D. the value of services provided by a plumbing company fixing your drains and roof gutters.
5. A *boom* in the level of domestic economic activity usually exists when:
 - A. there are generally idle resources and excess productive capacity.
 - B. there are widespread shortages of goods and services because national production is stretched beyond the economy's current capacity or speed limit.
 - C. GDP is steady or starting to rise.
 - D. general prices are rising and there are high levels of cyclical unemployment.
6. Typically, a *recession* is indicated by:
 - A. falling economic activity and rising cyclical unemployment.
 - B. rising cost inflation and a falling GDP.
 - C. weak employment growth, but rises in job vacancies.
 - D. increases in paid overtime and the participation rate.
7. A *leading indicator* of likely changes in the level of domestic economic activity is:
 - A. the unemployment rate.
 - B. business expectations or confidence.
 - C. retail sales.
 - D. the inflation rate.
8. According to the five sector circular flow model of the economy, a *rise* in the total value of *leakages* relative to the total value of *injections* tends to result in:
 - A. a fall in C, AD and economic activity.
 - B. a drop in total incomes and a rise in the unemployment rate.
 - C. neither A nor B.
 - D. both A and B.
9. Which of the following does *not* typify a *recovery* in the level of domestic economic activity?
 - A. Falling job vacancies and reduced overtime
 - B. Some rise in the inflation rate
 - C. Stronger labour market conditions
 - D. An increasing international trade deficit where the value of imports rises relative to exports

10. Weaker business confidence usually means that:
- A. a boom is on its way.
 - B. there are fewer optimists among business decision makers about future sales and profits.
 - C. firms will immediately increase their spending on new plant and equipment.
 - D. the economy's productive capacity will probably increase more rapidly.
11. When consumer confidence *strengthens*, this tends to cause:
- A. a decrease in the level of savings.
 - B. a decrease in the level of household consumption spending.
 - C. a rise in the level of unsold stocks of goods and services.
 - D. reduced demand for resources.
12. A *rise* in the value of the Australian dollar against the US dollar tends to:
- A. reduce our spending on goods and services imported from the US.
 - B. increase the competitiveness or attractiveness of Australian exports to buyers in the US.
 - C. increase the level of AD or spending on Australian-made goods and services.
 - D. cause a fall in the level of economic activity in Australia.
13. If the Australian economy was originally in a situation where there was domestic economic stability, and then there was a general *fall* in household and business confidence in Europe, China, Asia and the US, which of the following would tend to occur?
- A. Australian exports will rise.
 - B. Australian firms will increase production.
 - C. Economic activity in Australia will tend to slow, perhaps leading to a recession.
 - D. Australia's inflation rate will tend to accelerate.
14. Which of the following *best* explains the aggregate supply effects of a *fall* in domestic interest rates (e.g. record low rates between 2016 and 2019)?
- A. Increased levels of saving and/or lower C and I spending financed by credit
 - B. Increased production costs for some firms with overdrafts
 - C. Increased business profitability growing productive capacity
 - D. Lower production by firms, moving the AS line inwards
15. Which of the following is *not primarily* a factor affecting the value of C and hence AD?
- A. Interest rates offered on savings accounts and charged on home mortgages
 - B. Household disposable income
 - C. Worker productivity or efficiency
 - D. Changes in rates of personal income tax
16. In the *short term*, which of the following changes in the components of AD would *slow* Australia's economic activity by the largest amount in dollar terms?
- A. A 5 per cent fall in C
 - B. A 5 per cent fall in I
 - C. A 5 per cent fall in G
 - D. A 5 per cent fall in net Xs

17. Examine table 2.9 containing information about the terms of trade for a hypothetical country.

TABLE 2.9 Changes in a nation's export and import price indexes

Year	2015–16	2016–17	2017–18	2018–19	2019–20
Export price index	100	110	109	98	90
Import price index	100	109	102	128	140

Which of the following statements is *incorrect*?

- A. The terms of trade index in 2019–20 has moved unfavourably against the base year (2015–16), tending to cause a fall in AD and domestic economic activity.
 - B. There were unfavourable changes in the terms of trade in all years, which would cause AD to slow along with economic activity.
 - C. In 2017–18, the terms of trade index for this country was between 100 and 110 points.
 - D. Overall between 2018–19 and 2019–20, the incomes of exporters would probably tend to fall (other things being equal), along with the level of employment in the export sector.
18. In itself, which of the following is *likely* to *slow* Australia's economic activity?
- A. A depreciation of the Australian dollar
 - B. A rise in our terms of trade
 - C. Stronger economic growth in the US and Asia
 - D. A weaker growth in our real national disposable household income per head
19. Which of the following is the *least accurate* explanation of the *differences* between aggregate demand and supply theories relating to changes in the level of economic activity?
- A. Supply-side theory generally attributes instability in economic activity to microeconomic cost factors.
 - B. John Maynard Keynes was the main architect of macroeconomic demand-side theory.
 - C. Supply-siders claim that economic activity is dictated by the total annual value of expenditure on a nation's goods and services.
 - D. The main problem with Say's Law, which states that 'supply determines the level of demand', is that it fails to allow for the existence and changeability of savings in the economy.
20. Which one of the following is *least* likely to act as *both* an aggregate demand and aggregate supply factor that can affect the level of economic activity?
- A. Interest rates
 - B. The exchange rate
 - C. Tariff rates applied to imports
 - D. Household disposable income
21. In an AD–AS diagram, which statement is *false*?
- A. The AS line eventually becomes vertical due to constraints on productive capacity imposed by limited resources, efficiency and technology.
 - B. Up to the zone when full employment is reached, it is assumed that supply can be readily increased in response to very small rises in the general price level.
 - C. When aggregate supply factors become less favourable (e.g. an increase in production costs), the AS line moves out to the right.
 - D. If the economy is experiencing significant demand inflation, expenditure on domestic production could slow a little without a significant cut in economic activity or GDP.

22. If the economy was originally experiencing *domestic economic stability* and there was an 8 per cent rise in AD compared with a 4 per cent rise in productive capacity or AS over the same period, then there would be:
- A. no change in the level of economic activity.
 - B. demand inflation.
 - C. a significant rise in GDP.
 - D. increased unemployment.
23. *Reduced tax rates* on company profits (which occurred in Australia during 2016 and 2019) would mostly tend to:
- A. reduce household consumption.
 - B. slow economic activity and cut the employment of resources.
 - C. slow I and AD as well as causing firms to lift production levels.
 - D. boost both the economy's productive capacity and level of AD.
24. A *rise in the minimum wage* (e.g. to \$740.80 per week as occurred in July 2019) set by the Fair Work Commission would tend to:
- A. lift the level of consumption spending, AD and economic activity.
 - B. reduce business profits, shift the AS line inwards and depress economic activity.
 - C. create more favourable supply conditions.
 - D. both (A) and (B) are likely outcomes but it is difficult to say which of the two effects is strongest without further information.
25. New discoveries of rich oil deposits on the North-West shelf would tend to:
- A. increase the level of investment spending and economic activity.
 - B. shift Australia's production possibility frontier and AS line outwards so the equilibrium level of economic activity rises and potential material living standards should normally tend to grow.
 - C. cause AD to rise first and then later boost AS more, in the longer term.
 - D. cause all of the above.
26. *Stagflation* is *not* normally associated with:
- A. rapid price inflation.
 - B. strong domestic economic activity.
 - C. high unemployment rates.
 - D. a slow rate of growth in GDP.
27. Other things remaining unchanged, a *rise* in Australia's *terms of trade index* from 100 to 130 index points would most likely tend to:
- A. lower the level of AD and economic activity, and material living standards.
 - B. raise the level of AD and economic activity, and material living standards.
 - C. reduce the ratio of export to import prices.
 - D. raise the volume of exports relative to the volume of imports.
28. The drought and below-average rainfall throughout northern and eastern Australia between 2012 and 2019, along with an increased number of severe cyclones in northern Australia, would tend to:
- A. increase AD, AS and the level of economic activity, and boost material living standards.
 - B. decrease AD, AS and the level of economic activity, and erode material living standards.
 - C. increase AD and decrease AS, but slow inflation.
 - D. decrease AD and increase AS, but accelerate inflation.
29. Which of the following is most likely to be *both* an aggregate demand and an aggregate supply factor affecting the level of domestic economic activity?
- A. Tax rates on individuals and companies
 - B. Efficiency reforms
 - C. A fall in the labour force participation rate
 - D. The level of industrial unrest

30. Which of the following aggregate supply factors has an impact on the level of domestic economic activity that *differs* from those of the other three factors?
- A. Increased labour productivity
 - B. Increased bankruptcy rates and falling profit growth
 - C. Easing of welfare eligibility requirements for the unemployed
 - D. An increase in the success of Aboriginal land claims in mining and pastoral areas under the Mabo legislation
31. Which statement is *most correct*? The onset of generally more favourable aggregate supply conditions domestically will tend to cause:
- A. an increase in demand inflation as economic activity rises.
 - B. the equilibrium level of domestic economic activity to occur at a lower level of prices and at a higher level of output.
 - C. higher unemployment in the long term due to a weaker demand for our goods and services.
 - D. stagflation.
32. Which of the following aggregate demand and/or aggregate supply factors has an impact on the level of domestic economic activity that is generally *different* from the other three?
- A. Weaker consumer and business confidence
 - B. A rise in the exchange rate for the Australian dollar relative to the exchange rates for those countries to whom we export
 - C. Widespread drought, fires and floods in rural areas
 - D. Falling RULCs and improved multifactor productivity
33. All the following would most likely tend to *reduce* the productive capacity of the economy *except* one. Which one?
- A. The extension of world heritage status to the surrounding areas of the Great Barrier Reef and Kakadu National Park
 - B. Reduced company tax concessions for R&D projects and the purchase of business equipment
 - C. Further government deregulation of the labour market (reduced government controls) including the abolition of Sunday penalty rates and unfair dismissal laws, thereby making it easy for companies to sack staff
 - D. A rise in bankruptcy rates
34. Which of the following aggregate supply factors would *reduce* productive capacity?
- A. Increases in the labour force participation rate
 - B. A rise in the national savings ratio leading to lower interest rates on bank lending to businesses
 - C. A rise in the cost of imported raw materials and equipment used by local firms
 - D. An increase in average weekly working hours and worker efficiency, with no increases in pay rates
35. Which of the following developments would *not* tend to cause *stagflation* in the economy?
- A. Falling RULCs
 - B. Higher rates of company and personal tax, and the introduction of an emissions trading scheme applicable to firms releasing CO₂ into the atmosphere
 - C. Higher interest rates and oil prices
 - D. Lower government outlays on education, skills and training.
36. On the AD–AS diagram, *unfavourable* aggregate supply factors tend to cause:
- A. booms.
 - B. recessions.
 - C. stagflation.
 - D. depressions.

37. For an economy already operating *at its productive capacity*, a strong *rise* in AD will tend to:
- A. cause a further substantial rise in real GDP.
 - B. cause a rise in AS.
 - C. have little impact on real national output levels.
 - D. cause a large increase in employment.
38. Which of the following is *most correct*?
- A. Demand-side factors affect the level of AD and mainly decide the long-term level of economic activity.
 - B. Aggregate demand conditions affect the level of AD and determine the environmentally sustainable rate of economic activity.
 - C. Aggregate supply factors affect an economy's productive capacity, the size of the nation's production possibility frontier and potential GDP.
 - D. Aggregate supply conditions mainly affect the short-term or cyclical level of economic activity.
39. Concerning the Australian government's (RBA's) economic goal of low inflation (also called price stability), which statement is *most correct*?
- A. Low inflation means there should be no increase in inflation over a period.
 - B. Low inflation means the general level of prices paid for consumer goods and services should rise by less than 1–2 per cent a year.
 - C. Low inflation means that the CPI should rise by less than 10 per cent a year.
 - D. Low inflation means that, over the duration of the economic cycle, general consumer prices should rise by an average rate of around 2–3 per cent a year.
40. Which of the following *best* defines the consumer price index (CPI) for Australia?
- A. It is an index that measures actual changes in all prices of goods and services produced in Australia during the year.
 - B. It is an index that measures the price changes of exports against imports for the year.
 - C. It is an index that measures the average rate of change in the prices of a basket of consumer and investment goods and services during the year.
 - D. It is an index of the average annual change in the price of a basket of goods and services representing a high proportion of expenditure by metropolitan households.
41. If the CPI for a country in 2019–20 was 90 index points, while in 2020–21 it was 120 points, the annual inflation rate measured by the CPI would be:
- A. 40 per cent.
 - B. 30 per cent.
 - C. 20 per cent.
 - D. none of the above percentages.
42. High inflation in a country *may* cause:
- A. increased unemployment.
 - B. larger income inequalities.
 - C. a decline in the value of the nation's currency in foreign exchange markets, along with an increase in spending on imports and lower exports.
 - D. all of the above.
43. Theoretically, when there are strong aggregate demand conditions such as rapid rises in disposable income and consumer confidence under conditions where the economy is operating close to its productive capacity, it is *likely* that there will be:
- A. shortages causing demand inflation.
 - B. stagflation.
 - C. cost but not demand inflation.
 - D. high unemployment causing less wage growth and lower material living standards.

44. Rising RULCs and falling labour productivity tend to cause inflation which is *primarily* generated by:
- excessively strong AD.
 - firms lifting their prices to cover higher production costs and to protect their profit margins.
 - reduced inflationary expectations.
 - weakening the international competitiveness of local firms.
45. The Australian government's goal of *strong and sustainable economic growth* means that the value of national output of goods and services should:
- rise by at least 5–6 per cent a year in real terms.
 - rise by about 3 per cent annually in real terms.
 - rise steadily by between 4–5 per cent a year in real terms.
 - rise steadily by 2–3 per cent annually in real terms.
46. Assume that GDP at current market prices in year 1 was \$200 million and in year 2 was \$222 million. During this period, the deflator price index for GDP rose from 100 to 111 points. From these data:
- it is not possible to calculate the value of GDP at constant prices for year 1.
 - GDP at constant prices rose by \$22 million over the two-year period.
 - GDP at constant prices fell.
 - GDP at constant prices failed to rise or fall but remained constant.
47. Study the hypothetical data in table 2.10.

TABLE 2.10 Trends in macroeconomic indicators for a country

Indicator	2015–16	2016–17	2017–18	2018–19	2019–20
Annual CPI (percentage)	5.7	7.8	8.1	12.7	15.5
Annual rate of economic growth (percentage)	3.9	4.1	3.0	0.1	–2.0
Unemployment rate (percentage)	4.0	1.9	6.4	8.9	10.6

Based on this data, in 2015–16 and 2016–17 this economy *probably* experienced:

- stability or economic bliss.
 - a boom.
 - a slowdown in economic activity.
 - stagflation.
48. Referring to the hypothetical data in question 47, in 2018–19 and 2019–20 this economy *probably* experienced:
- domestic stability.
 - a boom.
 - stagflation.
 - none of the above situations.
49. Referring to the hypothetical data in question 47, it is *likely* that the domestic economic situation existing in 2019–20 was caused by:
- excessive levels of AD.
 - lower business profits, higher interest rates on business overdrafts and lower productivity.
 - an inadequate level of AD and falling production costs.
 - expansionary budgetary policies.
50. Referring to the data in question 47, the domestic situation in 2019–20 *may* have been caused by:
- high unemployment and government budget surpluses.
 - a slow rate of economic growth.
 - a loss of business confidence
 - steeply rising RULCs of production and business closures.

51. What happens when macroeconomic demand-side conditions *severely weaken* the growth in AD?
- A. Falling sales generally cause businesses to cut output to avoid rising stocks.
 - B. Firms are unlikely to change production and employment levels.
 - C. Firms are likely to lift their prices to make up for lost sales.
 - D. Firms usually undertake new capital expenditure on plant and equipment.
52. All of the following could generally explain how it was possible for Australia to enjoy both quite strong economic growth and moderately stable prices simultaneously *except* one. Which one?
- A. The general adoption by firms of rapid and successful structural change
 - B. Continued government efficiency reforms of the public sector, including labour market deregulation
 - C. Reasonable rises in worker productivity assisted by the spread of efficiency-based enterprise bargaining
 - D. Rising costs of materials used in manufacture
53. Which combination of the following factors best explains why the growth of chain volume GDP per head (GDP per head at constant prices) is an *unsatisfactory* measure of changes in living standards of a country?
- i. It takes no account of possible changes in work hours or the environmental impact of such production.
 - ii. It gives no real indication of the actual distribution of income or production.
 - iii. It takes no account of the rate in population growth.
 - iv. It fails to take account of the negative externalities associated with increasing GDP.
- A. Factors (i) and (ii)
 - B. Factors (ii) and (iii)
 - C. Factors (i), (iii) and (iv)
 - D. Factors (i), (ii) and (iv)
54. Many goods and services provided by the government are *not actually sold* or marketed. Their contribution to GDP is, therefore, given a value equal to:
- A. zero.
 - B. an imputed value based on estimates of the cost of providing the goods and services for the community.
 - C. the value of profits earned in their production.
 - D. an imputed amount determined by the value earned in the production of comparable privately produced goods and services.
55. Full employment is one of the Australian government's key economic goals. This is *normally* taken to mean:
- A. a zero rate of unemployment overall.
 - B. an almost zero rate of natural unemployment.
 - C. an almost zero rate of cyclical unemployment.
 - D. an almost zero rate of hard-core unemployment.
56. Concerning the problem of unemployment and the NAIRU for Australia, which statement is *false*?
- A. Given rapid technological advances and reductions in tariffs, it is likely that natural unemployment rates in 2019–20 were higher than they were in the 1960s and 1970s.
 - B. Full employment is currently a situation where about 4.5–5 per cent of the total labour force will be unemployed (partly as a result of structural change).
 - C. Overall, structural unemployment is now much lower than in the 1950s, partly because of the government's aggregate supply-side efficiency policies.
 - D. The NAIRU is the unemployment rate below which inflation will start to accelerate.

57. The ABS *usually* measures the unemployment rate by:
- A. surveying all workers.
 - B. calculating the percentage of the labour force who were able and willing to work, and who were actively looking for work but who were unable to find a job.
 - C. excluding all those people aged over 64 without jobs who wanted to work.
 - D. including all those who failed to work at least 35 hours per week.
58. Weak aggregate demand conditions such as falling real per capita disposable income and lower consumer confidence are *most likely* to cause:
- A. cyclical unemployment.
 - B. natural unemployment.
 - C. structural unemployment.
 - D. frictional unemployment.
59. New aggregate supply conditions — including higher RULCs, increases in interest rate charges to firms and company restructuring — are *most likely* to be associated with:
- A. cyclical unemployment.
 - B. structural unemployment.
 - C. frictional unemployment.
 - D. hard-core unemployment.
60. Normally, which of the following is *not* a sign of *weaker* labour market conditions?
- A. Reduced job vacancies
 - B. Increased overtime
 - C. Falling participation
 - D. Increased duration of unemployment
61. For Australia, normally one would expect the overall unemployment rate to be *lowest* when:
- A. the terms of trade are strong.
 - B. the Australian dollar is high.
 - C. business bankruptcy rates are rising.
 - D. RULC are higher.
62. The *impact* of a high unemployment rate includes:
- A. wasted productive capacity and lower living standards.
 - B. a higher tax burden on the employed than in times of low unemployment.
 - C. greater community social costs and less government money available for providing community services.
 - D. all of the above.
63. Most of Australia's car companies ceased their production and closed down during 2017. This *most likely* caused:
- A. cyclical unemployment to rise.
 - B. structural unemployment to rise.
 - C. hard-core unemployment to rise.
 - D. frictional unemployment to rise.
64. The growth in Australia's labour force would *not* be expected to *slow* as a result of:
- A. an ageing population.
 - B. increased immigration of those in the 20–40 age groups.
 - C. decreased affordability of childcare due to reduced government funding.
 - D. reduced participation rates.

65. Higher unemployment rates usually tend to:
- A. reduce non-material living standards.
 - B. reduce average per capital incomes and consumption.
 - C. cause the economy to be located inside its production possibility frontier with unused productive capacity.
 - D. all of the above.
66. Lower rates of unemployment are *unlikely* to:
- A. cause a rise in inflation.
 - B. raise the total value of government tax revenue, reduce outlays and reduce the size of the budget deficit.
 - C. weaken consumer confidence.
 - D. promote greater income equality.
67. If nominal wages rise by 6 per cent in a given year and inflation rises by 4 per cent, then *real* wages will:
- A. not change.
 - B. fall by 2 per cent.
 - C. rise by 2 per cent.
 - D. fall by 9 per cent.
68. The *fall* in Australia's exchange rate (as measured by the TWI) of around 20 per cent between 2013 and early 2016 to mid 2019 is *likely* to:
- A. have no effect on the inflation rate or economic growth.
 - B. potentially cause a fall in demand inflation and a rise in GDP.
 - C. potentially cause a fall in cost inflation and a rise in unemployment.
 - D. potentially cause a rise in both cost and demand inflation.
69. All of the following resulted from the *fall* in Australia's terms of trade index between 2010–11 and 2015–16 *except* one. Which one?
- A. Higher cyclical unemployment
 - B. Lower demand inflation
 - C. Higher rates of economic growth
 - D. Lower average material living standards
70. If aggregate demand rises faster than aggregate supply in the long-term, it is *likely* there will be:
- A. higher inflation.
 - B. higher real incomes.
 - C. a more economically sustainable rate of GDP growth.
 - D. higher cyclical unemployment.
71. A *weaker* Australian dollar (as seen between 2013 and early 2016 and 2017–18) would *generally* be expected to:
- A. reduce the number of overseas tourists and the value of our exports.
 - B. increase the number of Australian tourists in Bali, the US and Europe, thus increasing the value of our spending on imports.
 - C. act as a stronger aggregate demand-side factor, lifting the level of economic activity.
 - D. cause most Australian exporters to become less internationally competitive and hence close down.
72. A reduction in domestic interest rates on personal loans and business overdrafts will *tend* to:
- A. stimulate AD but reduce AS.
 - B. stimulate AD and increase AS.
 - C. increase business bankruptcy rates and thus raise structural unemployment.
 - D. increase savings and increase C.

73. Following a cyclone and drought that affected vegetable and meat production regions, which statement about Australia's inflation rate is *most likely* to be correct, all other things being equal?
- A. Both headline and underlying inflation will rise.
 - B. Underlying inflation will rise but headline inflation will be lower
 - C. Headline inflation will be higher than underlying inflation
 - D. The level of both AS and AD will increase, at least in the short term.
74. At the macro level, a *lower* rate of company tax would normally be expected to:
- A. shift the AD line to the right, increasing economic activity.
 - B. shift the AD line to the left, reducing demand inflation.
 - C. shift the AD line to the right and the AS line to the left, increasing cyclical and structural unemployment.
 - D. shift both the AD and AS lines to the right, increasing the real level of GDP and possibly lowering inflation.
75. As it stands, chain volume GDP per head is likely to be a *poor* measure of general living standards because:
- A. it fails to take into account inflation or deflation and the number of people sharing the goods and services that have been produced.
 - B. it fails to take into account other factors like the hours worked, happiness, resource depletion, negative externalities and most non-marketed production.
 - C. it fails to take into account the actual pattern of distribution of the goods and services that have been produced.
 - D. of both answers (B) and (C).
76. Which of the following is *least* likely to *increase* Australia's rate of economic growth?
- A. A rise in GDP per hour worked and a drop in RULCs
 - B. Increased outlays on R&D and the ongoing rollout of the NBN
 - C. Stronger economic activity in China and Japan, and a rise in mineral and rural commodity prices
 - D. Domestic business and household expectations becoming less optimistic
77. Stronger rates of global economic growth are *likely* to cause which of the following for Australia, given some unused productive capacity?
- A. Lower rates of cost inflation and higher incomes
 - B. Higher rates of unemployment and economic growth
 - C. Stronger labour market conditions and no immediate or serious demand inflation pressures
 - D. A higher value of net exports, weaker terms of trade and rising GDP
78. Which of the following is *most likely* to be regarded as an aggregate demand-side factor affecting Australia's rate of cyclical unemployment and short-term rate of economic growth?
- A. A rise in the ratio of household income saved
 - B. A drop in GDP per hour worked
 - C. The increased popularity of online shopping at major Australian retailers
 - D. An ageing population
79. Australia's average material living standards are *likely* to *increase* if:
- A. GDP rises faster, and inflation and unemployment are low.
 - B. GDP rises at the same rate as population and there is no change in inequality in income distribution.
 - C. GDP rises and there is an increase in leisure time and reduced CO₂ emissions.
 - D. All of the above.

80. Which of the following would tend to have an effect on Australia's rate of economic growth that is *different* from the other three?
- A. A reduction in immigration and an increase in the proportion of the population aged over 65 years
 - B. Reductions in government spending on education, economic infrastructure and R&D
 - C. A fall in the index of consumer confidence from 108 to 95 points
 - D. A reduction in taxes levied on business, less government red tape and lower compliance costs for firms
81. A fall in business and consumer confidence in China and a general slowdown in global economic growth are *most likely* to affect Australia's AD by changing our:
- A. level of C and hence slowing AD.
 - B. level of I and hence slowing AD.
 - C. level of M and hence slowing AD.
 - D. level of X and hence slowing AD.
82. Which of the following would *most likely* cause a *rise* in Australia's level of structural unemployment?
- A. More workers becoming unemployed between jobs
 - B. A greater degree of skills mismatch among the unemployed due to a lack of appropriate training
 - C. A slower growth in real disposable incomes per head and weaker AD
 - D. A rise in the level of hidden unemployment



Resources



Digital documents Multiple choice answer grid (doc-31495)
Multiple choice answers (doc-31496)

2.13 Exercise 2: Extended response questions

1. Distinguish *material* living standards from *non-material* living standards. (3 marks)
2. Giving examples, what are the key types of *relationships* that can exist between *material* and *non-material* living standards? (2 marks)
3. In what ways is 'Measures of Australia's Progress' (MAP) a superior measure to Real GDP per head as an indicator of Australian's overall wellbeing and whether life in Australia is getting better or not? (3 marks)
4. How has Australia's recent *level* of *economic activity* changed? Identify and explain the impact of this change on the achievement of the Australian government's key *domestic macroeconomic goals*. (4 marks)
5. Recently till 2020, some aggregate demand factors have been relatively *weak*. Show the impact of these generally weaker factors by completing an AD–AS diagram. Referring to *two* specific *aggregate demand factors* and the completed AD–AS diagram, explain how these two factors have tended to affect Australia's rate of *economic growth* and the *inflation rate*. (4 marks)
6. Define the term *aggregate supply*. For recent years to 2020, select *one* important aggregate supply factor that has recently *slowed* Australia's level of economic activity. Show the impacts of this factor on an AD–AS diagram. Referring to the completed AD–AS diagram below, explain how this factor is likely to have *affected* the achievement of *domestic economic stability*. (5 marks)
7. *Accurately* define what is meant by the RBA's (government's) *goal of low inflation* (sometimes called *price stability*). (2 marks)
8. Outline how high rates of inflation might affect the *living standards* of Australians. (2 marks)
9. What are the main *differences* between the *headline* inflation rate and the *underlying* inflation rate (also called core inflation)? (2 marks)

10. Examine table 2.11 showing data relating to Australia's inflation rate (eight capital cities). Using the CPI table, calculate (in the space below) the annual inflation rates for all years from 2015–16 onwards. Show your working. (2 marks)

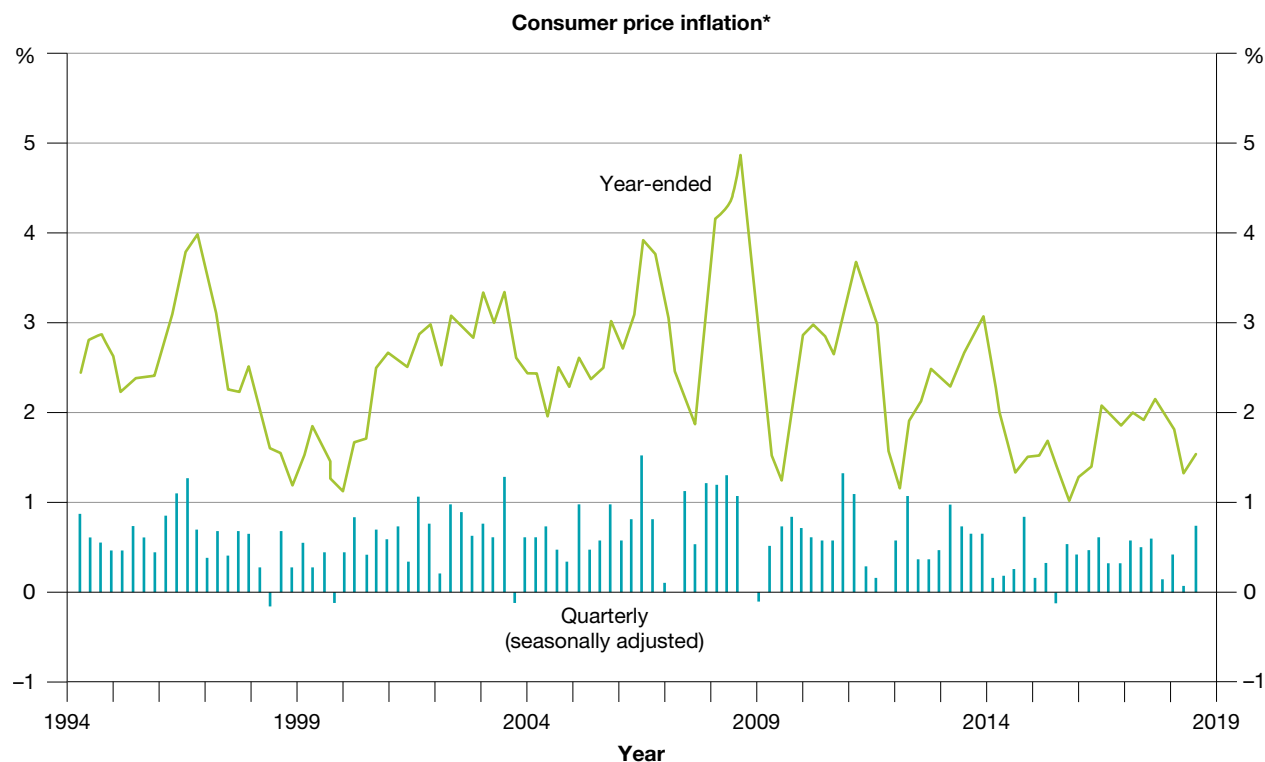
TABLE 2.11 Changes in Australia's CPI

Year	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
CPI at June (base year = 2011–12 = 100)	106.8	108.3	110.2	112.3	114.8	
Inflation rate (calculate annual %)	NA	%	%	%	%	%

Source: © Australian Bureau of Statistics.

11. Referring to the headline CPI data shown in figure 2.61, describe the overall year ended trend in Australia's inflation from 2008–09 onwards. (2 marks)

FIGURE 2.61 Trends in Australia's inflation rate



* Excluding interest charges prior to the september quarter 1998 and adjusted for the tax changes of 1999–2000

Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Australian Inflation Released on 4 September 2019.

12. Distinguish *demand* inflation from *cost* inflation. (2 marks)
13. Clearly explain *why* Australia's consumer inflation rate has been so *low* in recent years. To help your explanation, complete, label and refer to two AD–AS diagrams that illustrate the general impacts of both aggregate demand factors and aggregate supply factors in the last two years to 2020. (8 marks)
14. If the value of the A\$ fell by 20 per cent, explain how you would expect this to affect Australia's inflation rate. (4 marks)
15. Accurately define what is meant by the Australian government's goal of a *strong and sustainable rate of economic growth*. (2 marks)
16. In the 12 months to June 2019, Australia's rate of growth slowed to 1.6 per cent, although it was still positive. Identify and explain *one important aggregate demand factor* that has tended to *slow*

Australia's recent rate of *economic growth* and the achievement of key *domestic macroeconomic economic goals*. (4 marks)

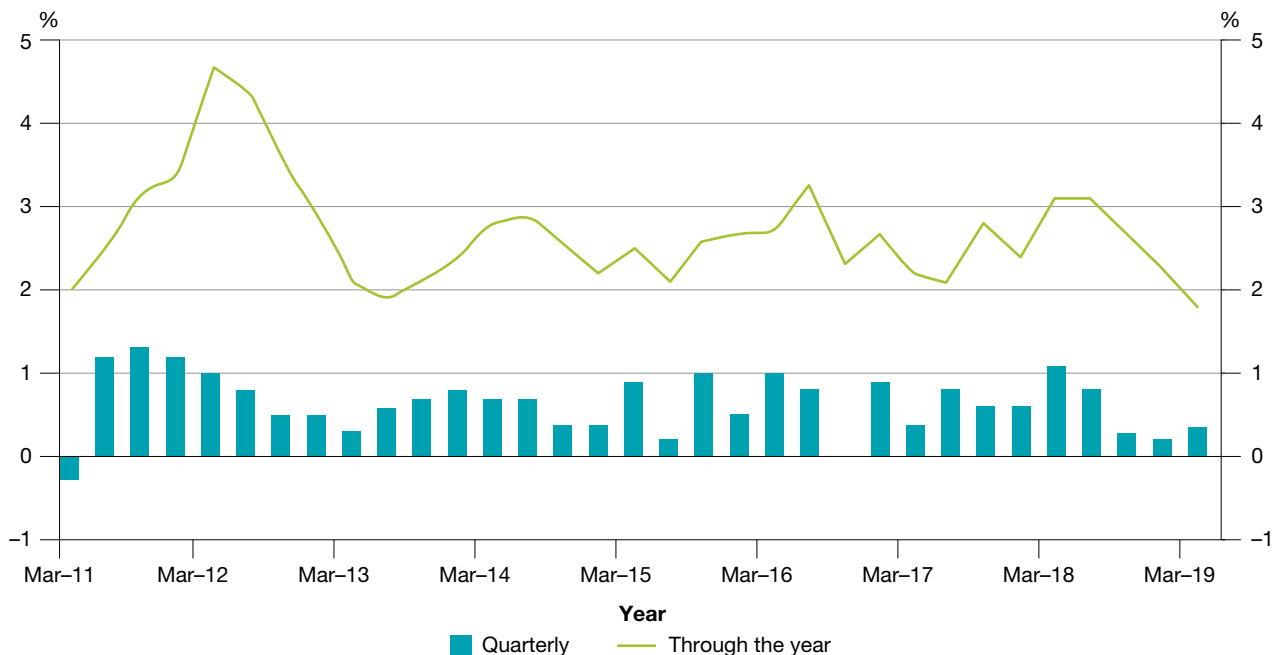
17. Define what is meant by Australia's *terms of trade* (TOT), noting how it is measured. (1 mark)
18. As an aggregate demand factor and using a completed AD–AS diagram, clearly explain how the rise in Australia's TOT index to 2019 is likely to have affected our level of *domestic economic activity*. (4 marks)
19. Explain how recent *climatic events* and *labour productivity trends* are likely to have affected Australia's *material living standards*. (4 marks)
20. Given the information in the table 2.12, calculate the *chain volume GDP* (i.e. also called *real GDP* or GDP at *constant prices*) for year 2. Show the formula and basic working. In addition, outline *why* it is necessary for the ABS to adjust the value of GDP, calculated at current or market prices. (2 marks)

TABLE 2.12 Calculating a nation's real GDP

Data	Year 1	Year 2
GDP at current or market prices	\$200 million	\$220 million
Chain price index	100 points	105 points
Chain volume GDP for year 2 (i.e. real GDP)	\$200 m	\$ m
Formula used =		

21. Referring to data from figure 2.62, describe the general trend in Australia's rate of economic growth between March-2011 and March-2019. (2 marks)

FIGURE 2.62 Quarterly and annual changes in Australia's GDP



Source: Graph copied directly from ABS, 5206.0.

22. Explain what is meant by the Australian government's *goal of full employment*. (2 marks)
23. Identify and explain *three* important causes of Australia's *structural* unemployment. (3 marks)
24. Distinguish *cyclical unemployment* from *structural* unemployment. (2 marks)

25. Examine table 2.13 showing data relating to Australia's population and labour force to complete the five required calculations (*Note: show your basic formula and working*). (5 marks)

TABLE 2.13 Data relating to Australia's population and labour force

Indicator	Persons	Calculate, showing formula and basic working
1. Total population of Australia	25 400 000	Labour force size m
2. Total number of persons aged over 15	20 693 000	The unemployment rate = ...%
3. Number of people employed	12 430 000	The employment rate = ...%
4. Number of people unemployed	680 100	The participation rate = ...%
5. Underemployment rate	8.3%	The underutilisation rate = ...%

Source: © Australian Bureau of Statistics.

26. What are the two main *limitations* of Australia's unemployment statistics? (2 marks)
27. Explain how you would normally expect a rise in participation rate to affect unemployment rate. (1 mark)
28. Examine the data in table 2.14 relating to Australia's *labour market conditions* to January 2019. Referring to the statistics, *describe* the recent *changes* in Australia's *labour market conditions* over the last two years. (3 marks)

TABLE 2.14 Data relating to changes in Australia's labour market indicators

Year	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
1. Unemployment rate (percentage of labour force, average of 12 months)	5.9	6.2	5.9	5.7	5.5	5.1	
2. Percentage change in the annual rate of unemployment.	9.2	5.1	–4.8	–3.4	–3.5	–7.2	
3. Unemployment rate 15–24 (trend percentage at June)	13.5	13.4	12.7	12.8	11.6	11.9	
4. Long-term unemployed as a percentage of total unemployed (at June)	24.4	23.4	22.9	23.2	25.1	23.2	
5. Number unemployed persons ('000 at June)	742	766	726	727	714	709	
6. Labour force underutilisation rate (trend percentage at May each year)	13.5	14.1	14.1	14.3	13.9	13.5	
7. Participation rate (trend percentage at June)	64.9	65	64.8	64.9	65.6	66.1	
8. Annual rise in the number part- and fulltime employed (percentage change, trend, June on June).	0.7	1.7	1.8	1.9	2.6	1.6	
9. Annual total job vacancies ('000, at May)	143	156	159	189	236	243	
10. Annual percentage change in aggregate hours worked (trend June on June)	0.9	0.8	0.4	3.2	2.6	2.0	

Source: © Australian Bureau of Statistics.

29. Identify and explain one important *aggregate demand factor* and one important *aggregate supply factor* that may have *lowered* Australia's overall *unemployment rate* during the last two years or so. (4 marks)
30. Explain how a further *reduction* in Australia's unemployment rate would be likely to affect each of the following: (4 marks)
- the rate of inflation
 - living standards.
31. Describe the relationships that can exist in Australia between the rates of *economic growth* and *unemployment*. (2 marks)

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2.13 Practice school-assessed coursework

Three SACs are to be completed for VCE Economics Unit 3. SAC 2 is worth 30 per cent of the total assessment for Unit 3. It assesses the skills and knowledge associated with Outcome 2 that is largely covered in Topic 2. The SAC should be part of the regular teaching and learning program, and completed mainly in class and within a limited timeframe. The SAC could involve one or more of the following tasks:

- a folio of applied economic exercises
- an essay
- a report
- media analysis
- case study
- structured questions.

Courses and assessments can change, so teachers are urged to carefully check the latest VCAA *assessment guide* and various *bulletins* to ensure that all the assessment requirements are met fully.

A FOLIO OF APPLIED ECONOMICS EXERCISES

1. Define the term *domestic economic stability*. Referring to Australian statistical indicators relating to the last two years, describe the *extent* to which this situation been recently achieved. (3 marks)
2. Many consider *chain volume GDP per capita* to be a poor measure of Australia's *overall living standards*. Explain why. (3 marks)
3. *Distinguish* the *headline CPI* and the *underlying CPI*. (2 marks)
4. Recently, Australia's *inflation rate* has been very *slow*. Discuss how you would expect our *low inflation rate* to affect the *distribution of income*. (4 marks)



5. Giving reasons, explain how the generally lower value of the A\$ (measured by the TWI) over the last two years would be likely to affect Australia's *inflation rate*. (2 marks)
6. Distinguish *cyclical unemployment* from *structural unemployment*. (2 marks)
7. Explain how you would expect the general change in Australia's *terms of trade* in the last few years to affect Australia's *domestic macroeconomic conditions*. (4 marks)
8. Clearly explain how you would expect the recent trend in Australia's unemployment rate between to affect our *general living standards*. (3 marks)
9. Calculations (*no calculators* are to be used):
 - (a) Use the hypothetical data in table 2.15 to calculate the Terms of Trade Index (TOT) for 2020–21 and 2021–22. (1 mark)

TABLE 2.15 Changes in a country's export and import price indexes

Year	Export price index	Import price index	Calculations for the TOT Index
2020–21	110	100	TOT Index = ... points
2021–22	120	100	TOT Index = ... points

- (b) Use the hypothetical data in the table 2.16 to calculate the *real GDP* for 2021–22. Show your basic working and formula. (1 mark)

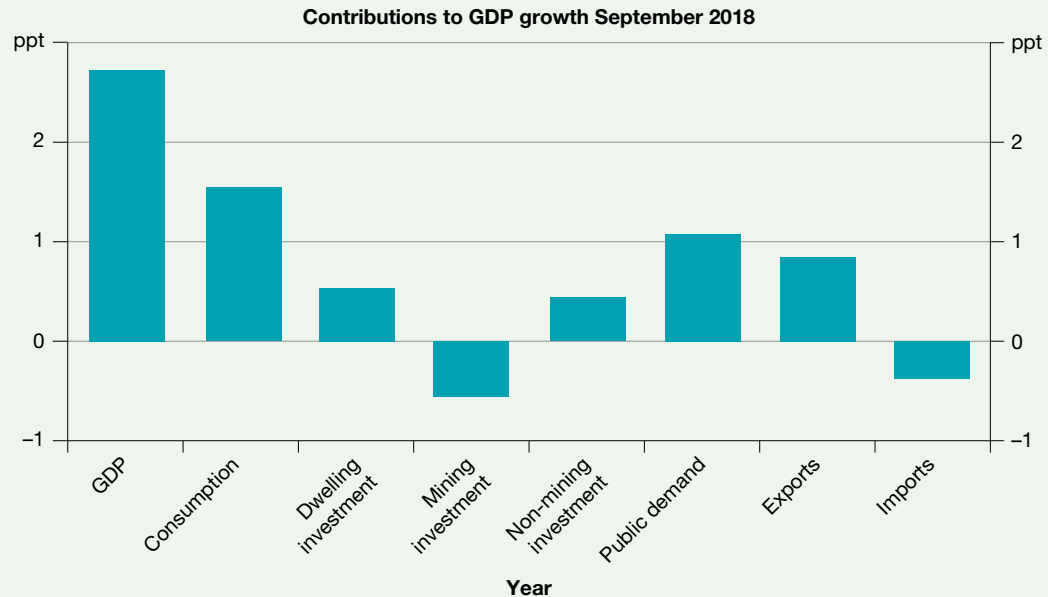
TABLE 2.16 Calculating a nation's real GDP

Year	GDP at market prices	Price deflator index	Calculations for real value of GDP in 2021–22
2020–21	200	100	Answer = \$
2021–22	220	110	

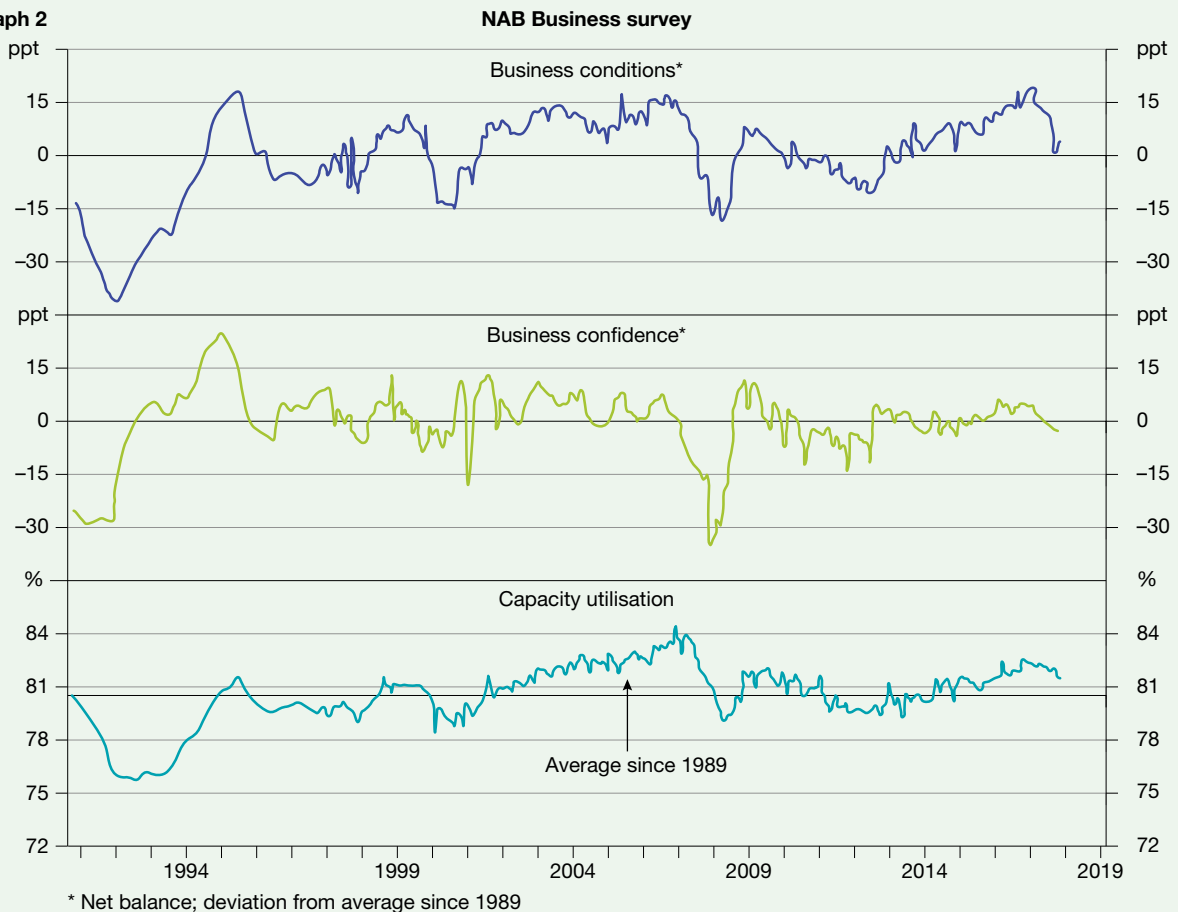
10. Analyse the *relationships* that can exist between Australia's rate of *economic growth* and the *unemployment rate*. (2 marks)
11. Recently, Australia has experienced significant *infrastructure bottlenecks* in several key areas of the economy such as power and transport. Explain how you would expect these to affect the *achievement* of the Australian government's three key *domestic macroeconomic goals* and *material living standards*. (4 marks)
12. Examine figure 2.63 and answer the questions below.
 - (a) For the 12 months ended September 2018, what were the *two* main accelerators of AD and what were the *two* main factors slowing AD and GDP growth? Quote evidence from the chart. (2 marks)
 - (b) Was the government's *goal of strong and sustainable economic growth* achieved in this period? Justify your answer. (2 marks)
 - (c) How would you expect the rate of growth in AD and GDP in this period to affect the *achievement* of domestic macroeconomic goals and living standards? (4 marks)
 - (d) Quoting data from graph 2, contrast the business conditions that existed in 2007–08 with those in 2018–19. (3 marks)

FIGURE 2.63 Graphs showing the spending contributors to Australia's GDP and indicators of business conditions

Graph 1



Graph 2



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Australian Growth Released on 8 May 2019; © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Business Sector Released on 8 May 2019.

AN ESSAY

Complete *one* of the following essay topics.

1. During the last two years, Australia's level of economic growth has changed.
 - (a) What are the main macroeconomic, aggregate demand and aggregate supply factors causing this change?
 - (b) What are the three most important effects of this change? **(20 marks)**
2. In recent years, Australia's inflation rate has been relatively low. Identify and explain the key aggregate demand and cost factors that help support this observation. How would low inflation be likely to affect the following?
 - (a) The distribution of income
 - (b) Our international competitiveness **(20 marks)**
3. Describe the main trends in Australia's labour market indicators during the last two years. Identify the key factors that help to explain these trends and their effects on the levels of cyclical and natural unemployment. Identify and explain three important consequences for our wellbeing of these trends. **(20 marks)**

A WRITTEN REPORT

Complete *one* of the following report topics.

1. After conducting appropriate research using the internet and other sources such as RBA Statistics, the RBA Chart Pack and the ABS, prepare a written report covering the following aspects (total 20 marks):
 - (a) What is meant by the *level of economic activity*? Contrast the economic situations of *boom* and *recession*. **(2 marks)**
 - (b) How is the level of economic activity commonly measured? Identify and explain *three* important deficiencies of this measure. **(4 marks)**
 - (c) Imagine you were the governor of the RBA or the federal treasurer. Using relevant data, describe Australia's recent domestic macroeconomic economic conditions. **(4 marks)**
 - (d) Identify and explain three important aggregate demand-side factors and three important aggregate supply-side factors that are likely to have affected Australia's recent domestic economic conditions during the last two years. **(6 marks)**
 - (e) Identify and explain three important aggregate demand-side factors and three important aggregate supply-side factors that are likely to have affected Australia's recent domestic economic conditions during the last two years. **(4 marks)**
2. The following is an example of a possible structure for a written report about the *goal of low inflation* as a key macroeconomic objective. If need be, it could be adapted to focus on other goals (total 20 marks).

Instructions

- This task requires that you prepare a *written report* about the government's *goal of low inflation*. The report has several parts to it. The total class time allowed for this task is about *55 minutes*.
- In writing your report, you may refer to the approved materials that you have been allowed to bring into class (e.g. fact sheets, example sheets, summary notes).
 - (a) Clearly define what is meant by the RBA's current *goal of low inflation*. **(2 marks)**
 - (b) Explain three important features of the CPI as a measure of the inflation rate. **(2 marks)**
 - (c) Draw and label a graph showing changes in Australia's inflation rate over the past two years (e.g. between 2018–19 and 2019–20). **(1 mark)**
 - (d) Refer to your graph from part (c). To what *extent* has the RBA successfully achieved its goal of low inflation during the past two years? **(2 marks)**
 - (e) With the use of AD–AS diagrams, clearly explain how aggregate demand-side and aggregate supply-side conditions can affect the rate of inflation. **(2 marks)**
 - (f) Identify and explain *two* important aggregate demand-side factors and two important aggregate supply-side factors that have affected Australia's inflation rate during the last two years. **(6 marks)**
 - (g) Explain how the failure to achieve the goal of low inflation would be likely to affect the living standards of Australians. **(5 marks)**

3 Australia and the world economy

3.1 Overview

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

3.1.1 Introduction

Every day, Australians conduct *international transactions* with people from other countries through trade and capital flows. International *trade* involves exporting (selling) and importing (buying) goods and services, while international *capital flows* entail the movement of money capital or investments between countries.

There has been a spectacular growth in global trade, from around 2 per cent of the world's GDP in AD 1500 to around 72 per cent by 2018. Each year international trade in goods alone generates over \$42 trillion (US) worth of production globally. This creates jobs, generates incomes, provides access to cheaper goods and improves material living standards for billions of people. However, a downside of this may be the potential for greater economic instability, accelerated environmental damage and climate change.

FIGURE 3.1 International trade continues to grow every year, improving material living standards for billions of people, however it is impacting environmental damage and climate change.

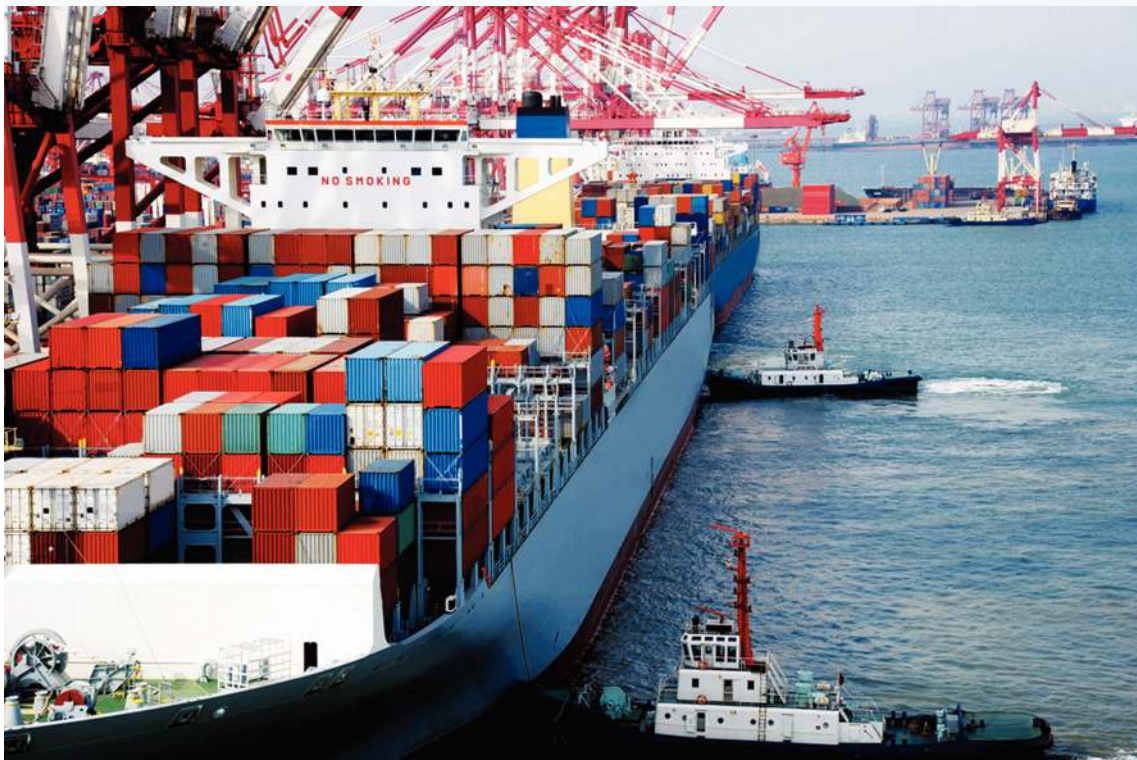
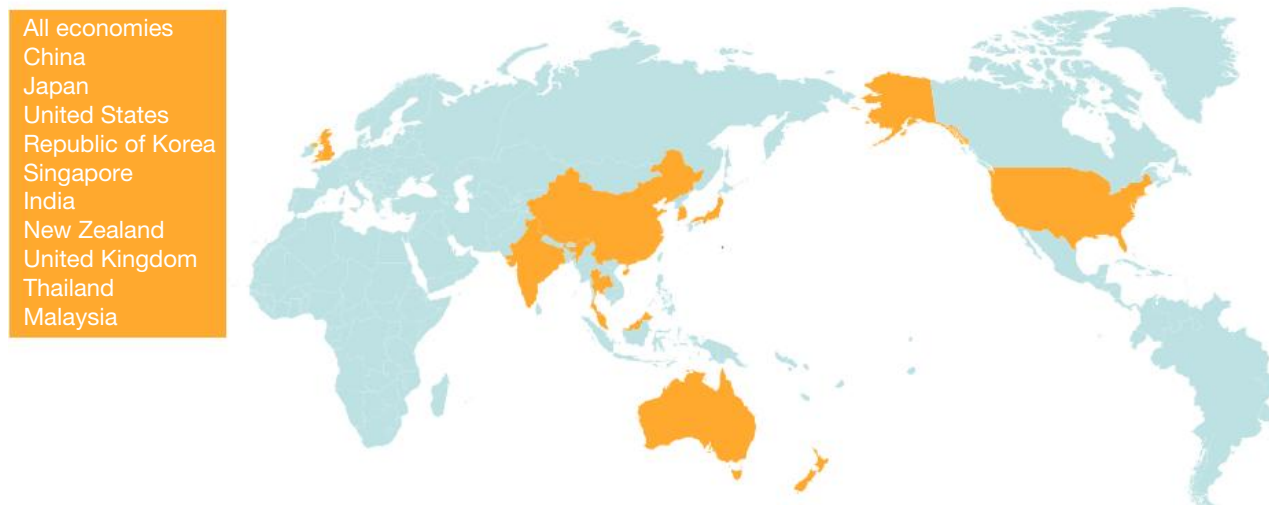


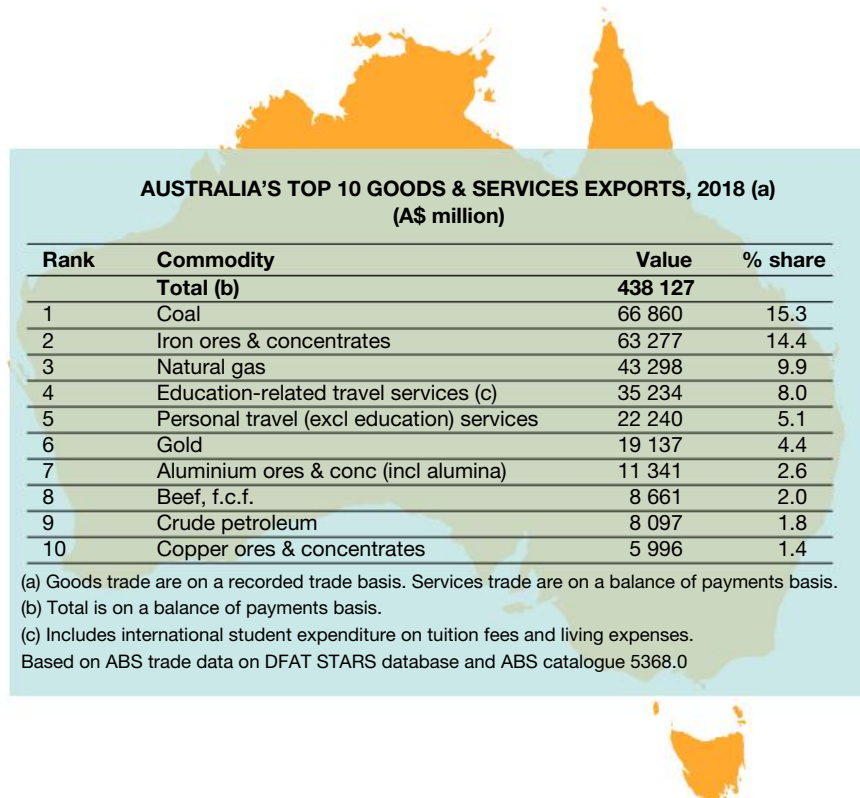
Figure 3.2 (part a) shows Australia's top 10 countries with which we trade, ranked by the total annual value of exports plus imports of goods and services. These include China, Japan, United States, South Korea, Singapore, India, New Zealand, United Kingdom, Thailand and Malaysia. The figure also shows the type or composition of Australia's exports (part b) and imports (part c) of goods and services, ranked by value and in percentage terms.

FIGURE 3.2 Australia's top 10 two-way trading partners (part a), and the composition of our exports (part b) and imports (part c)

(a) Australia's top 10 countries for two-way trade in goods and services



(b) The composition of Australia's exports of goods and services



(c) The composition of Australia's imports of goods and services



AUSTRALIA'S TOP 10 GOODS & SERVICES IMPORTS, 2018 (a)
(A\$ million)

Rank	Commodity	Value	% share
	Total (b)	414 991	
1	Personal travel (excl education) services	44 804	10.8
2	Refined petroleum	25 266	6.1
3	Passenger motor vehicles	22 441	5.4
4	Telecom equipment & parts	14 400	3.5
5	Crude petroleum	13 790	3.3
6	Goods vehicles	10 684	2.6
7	Freight transport services	10 108	2.4
8	Computers	9 686	2.3
9	Passenger transport services	7 339	1.8
10	Medicaments (incl veterinary)	7 203	1.7

(a) Goods trade are on a recorded trade basis. Services trade are on a balance of payments basis.
(b) Total is on a balance of payments basis.

Based on ABS trade data on DFAT STARS database and ABS catalogue 5368.0.



Source: © Department of Foreign Affairs and Trade, www.dfat.gov.au.

3.1.2 What you will learn

KEY KNOWLEDGE

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

- the relationship between trade and living standards including lower prices for consumers, greater choice for consumers, the ability of businesses to achieve economies of scale and access to more resources for business and government
- the balance of payments and its components
- causes of Australia's current account deficit including cyclical and structural factors
- the relationship between the current account and the capital and financial account
- the composition and cause of net foreign debt and net foreign equities
- the terms of trade: meaning and measurement and the factors that may influence the terms of trade
- the effect of movements in the terms of trade on the current account balance, the domestic macroeconomic goals and living standards
- factors affecting the value of the exchange rate including relative interest rates, demand for exports and imports, capital flows, the terms of trade and relative rates of inflation
- the effect of exchange rate movements on the current account balance, the domestic macroeconomic goals and living standards
- factors that may influence Australia's international competitiveness including productivity, production costs, availability of natural resources, exchange rates and relative rates of inflation, and the effect of these factors on domestic macroeconomic goals and living standards
- the effect of trade liberalisation on Australia's international competitiveness, domestic macroeconomic goals and living standards.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- explain key international economic relationships and how they may affect living standards
- explain trends, patterns, similarities and differences in economic data and other information
- calculate relevant economic indicators using real or hypothetical data
- access and interpret, and draw conclusions from, information gathered from a range of sources.

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.

on Resources

 **Digital document** Key terms glossary (doc-31501)

studyon

To access key concept summaries and past VCAA exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31502).

3.2 The relationship between trade and living standards

KEY CONCEPT

- the relationship between trade and living standards including lower prices for consumers, greater choice for consumers, the ability of businesses to achieve economies of scale and access to more resources for business and government

International trade occurs because it is *beneficial* to nations. It helps them to improve efficiency and living standards. Throughout history, there are many examples of how trade has strengthened empires, grown national production and incomes, created jobs, enriched cultures, increased knowledge and raised living standards. By contrast, *closed* nations that restricted trade ultimately lost their prominence and power.

In order to increase the volume of international trade and *raise* living standards, governments over the last few decades have adopted the policy of **trade liberalisation** or freer trade. This has involved reducing the level of **trade protection** by:

- cutting the level of **tariffs** and thereby making foreign goods cheaper
- reducing government cash **subsidies** paid to local firms and so allowing imports to compete on the same basis as locally manufactured products
- abolishing **import quotas** that restrict the volume of foreign goods entering the country
- signing up to more bilateral (usually between two nations) and multilateral (between many nations) **free trade agreements (FTAs)** with other countries.

As a result of trade liberalisation, openness and a greater recognition of the benefits of international trade, world trade (the total value of exports plus imports of goods and services) as a percentage of GDP exploded by 43 per cent over a recent 15-year period. In this section of the course, we examine some of the general benefits and costs of this growth in world trade, and its relationships with:

- *material living standards* (the *quantity* of goods and services consumed per person as affected by per capita incomes and purchasing power)
- *non-material living standards* (the *quality* of daily life as affected by factors such as world peace, stress, happiness, freedom, cultural enrichment and environmental issues including climate change).



3.2.1 Trade can encourage international specialisation lifting material living standards

Because countries have *different* combinations of natural, labour and capital *resources*, they are more efficient at producing some types of goods or services than others. This is reflected in their relative level of costs and prices. Especially in recent decades, with reduced government protection of local industry from imports and the growth of *freer*



trade in recent decades, there has been an increase in **international specialisation**. Here, countries will produce only a limited range of goods and services, focusing on those areas where they have the greatest *cost advantage* over their international rivals. These goods and services in which they are relatively more efficient can then be exported, and the income gained used to pay for imports that are too expensive to produce locally. By putting its resources to work in their most productive or efficient use, a nation can generate more output (GDP) from the same inputs (resources), and in so doing, raise its income and material living standards.

Just by looking at the origin of the goods and services consumed, we can see that many countries *specialise* in production. For instance, you might wear a watch made in Switzerland, eat lamb grown in

Australia, be entertained with movies from the United States or India, drink coffee from Brazil, holiday in Indonesia, wear shoes made in the Philippines and T-shirts sourced from Bangladesh, drive cars made in Germany or South Korea, and use a mobile phone manufactured in China.

Specialisation in production internationally can be based on *two* types of advantage: absolute cost advantage and comparative cost advantage.

- **Absolute cost advantage.** An *absolute cost advantage* occurs if a nation is the *cheapest* or most efficient producer of a single good or service in the world. For example, if Korea is the cheapest or most efficient producer of cars, it is said to have an absolute cost advantage over other countries. It is likely that its car exports will sell very well indeed. Similarly, if Australia is the cheapest producer of iron ore and has an absolute cost advantage, Korean and other manufacturers would be keen to buy from us. Clearly, both countries would benefit from international trade since each has an absolute cost advantage in different areas of production. However, as we shall see, international trade is still beneficial even if a country has no absolute cost advantage.
- **Comparative cost advantage.** A nation has a *comparative cost advantage* if it specialises in a few key areas of production where its cost advantages are greatest or its disadvantages are lowest. This means that *opportunity costs* (the value of production forgone or given up, which was illustrated in section 1.4.3 using a production possibility diagram) would be minimised and output maximised. Here, resources would be allocated most efficiently, and hence production, incomes and material living standards should be most favourable.

The famous English economist, David Ricardo (1772–1823), outlined the principle of comparative cost advantage and supported the idea of **free trade**. He claimed that specialisation in international trade in areas of comparative cost advantage made countries better off economically, generating benefits for all. This idea probably makes good sense since, in many ways, nations are like individuals who have greater talent or efficiency in some areas than in others. Logically, we too should specialise in the few things we do best of all and give up other pursuits!

To illustrate this concept, Ricardo used the example of two countries, England and Portugal. Each could produce *two* products, cloth and wine, with the resources available. Table 3.1 summarises the comparative cost advantage of each country producing these products, measured in terms of the *number of man-hours* that must be worked *per unit of output produced*.

TABLE 3.1 Ricardo's example of comparative cost advantage: the number of man-hours that must be worked per unit of output produced in England and Portugal

Country	Cloth (hours per unit produced)	Wine (hours per unit produced)
Portugal	90	80
England	100	120

In this case, it can be seen that Portugal has lower expenses or an *absolute cost advantage* in producing *both* these products. The cost of producing cloth in Portugal is 90 per cent (90/100) of the cost of making it in England. By contrast, the cost of producing wine in Portugal is very much lower at only 66.6 per cent (80/120 or 2/3) of the cost in England. Some might conclude from this that England could not export to Portugal since it is uncompetitive (and to survive, its industries would need government protection). From Portugal's point of view too, it seems that it would not pay to import goods from England.

However, let's re-examine the situation. Logically, *both* countries can benefit from trade, provided that each *specialises* in its area of relative or *comparative cost advantage*. What this means is that *relatively*, Portugal is an even more efficient producer of wine than it is of cloth. Because it has a greater comparative advantage in producing wine, it should specialise in producing wine rather than in cloth if it wants to minimise opportunity costs, and maximise its output and living standards. By contrast, England has a relative or comparative advantage in cloth (where its disadvantage is least) and should allocate its resources accordingly to minimise its opportunity cost and maximise efficiency, production and incomes. Despite the

simplistic assumptions in this example (such as the absence of transport costs involved in trade), Ricardo powerfully argues that free trade and specialisation in areas of comparative cost advantage would be beneficial, increasing the total volume of world output, incomes, purchasing power and material living standards.

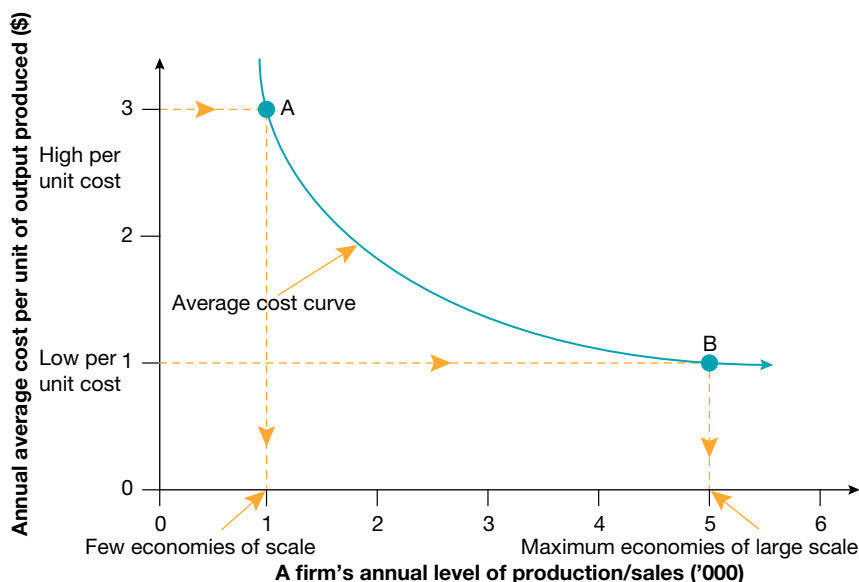
3.2.2 Trade promotes economies of large-scale production lifting material living standards

Economies of large-scale production are reductions in a firm's average costs per unit, associated with an increase in its annual production level. Costs such as expensive high-tech equipment including robots, product design, purchase of raw materials, borrowing credit from banks, research and development, marketing and advertising, and (up to a point) management, can be spread more *thinly* when a business has a larger production run. What international trade can do is encourage specialisation and help businesses grow their sales volumes by allowing them to produce on a much larger scale — for a potential global market of up to 7.4 billion people instead of only the relatively small local market (e.g. potentially up to 25.5 million Australians). In turn this would lower average costs, strengthen competitiveness, grow average incomes and purchasing power, and boost material living standards.



The spreading of a firm's *average unit costs* over higher annual levels of output to gain economies of large-scale production is illustrated hypothetically in figure 3.3.

FIGURE 3.3 International trade can increase economies of large-scale production for businesses by reducing their average costs of production per unit of output.

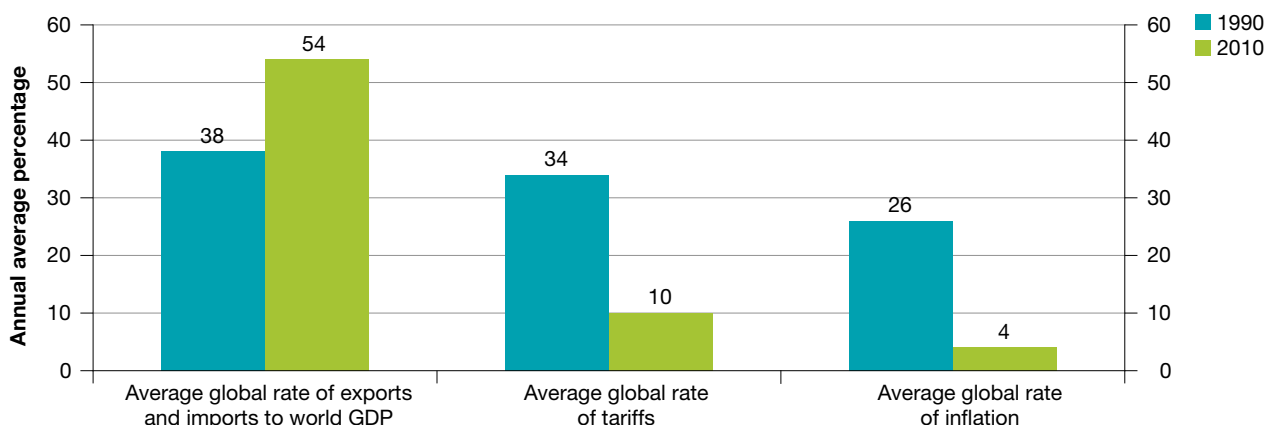


Notice that as a firm's annual level of production rises from 1000 to 5000 units per year (perhaps enabled by growing the size of its global export markets), the average cost of making each unit falls from \$3 (at point A) to just \$1 (at point B). Clearly, international trade can boost production and efficiency, lower prices, strengthen competitiveness and sales, and thereby improve real incomes, purchasing power, consumption and material living standards.

3.2.3 Trade helps lower prices for consumers that improve material living standards

As a general rule, the rapid growth of international trade (assisted by trade liberalisation or reduced protection of local industry) appears to have dramatically *slowed inflation* rates. Certainly this has been the experience of most countries, including Australia. For example, studies (such as those by Melitz, Schwerhoff and Sy in 2003 and 2013) showed that when tariffs came down, they caused the volume of global trade (as judged by the total ratio of world exports and imports to international production) to increase from an average of 38 per cent of GDP in 1990, to 54 per cent recently while reducing the average annual inflation rate for the same period from 26 per cent to just 4 per cent (based on over 120 countries). Indeed, freer and more open international trade has generated windfall gains for people around the world by increasing their *purchasing power*. Some of this data are shown in figure 3.4.

FIGURE 3.4 Relationships between the average global rate of trade to world GDP, average tariff rates and average global inflation rates



Source: Data rounded and derived from EconoMonitor.com, How Globalization Helped Decreasing Inflation, 6 August 2013.

There are several reasons why the growth in global trade has generally been associated with *lower inflation*:

- *Access to the cheapest suppliers lowers inflation.* Freer trade allows domestic households and firms to purchase goods (mobile phones, cars, appliances, clothes, machinery, steel, coal, meat) and services (education, health, travel, finance, entertainment) from the cheapest suppliers around the world. This has been boosted by the explosion of online shopping and trading, and much cheaper and faster transportation.
- *Increased competition with local suppliers lowers inflation.* Reducing industry protection around the world as a way of growing trade has dramatically increased competition in local markets, thereby encouraging international specialisation in production and higher productivity. Without protection, resources must be allocated to their relatively most efficient use where the cost advantage is greatest and the opportunity cost is least. This should lead to lower inflation.
- *Reduced domestic market power lowers inflation.* The growth of trade has helped to reduce the degree of market power that exists in some domestic industries, because firms face fiercer competition from

imports. In their fight for survival, businesses must now cut their costs, innovate, restructure production and use the latest technology (perhaps purchased more cheaply from overseas due to lower tariffs) in order to keep their prices down and quality up. In short, they are forced to become more internationally competitive.

- *Increased wage competition lowers inflation.* In domestic labour markets, the growth of trade through liberalisation and reduced protection has increased the level of competition from low-wage countries. This has helped to slow the growth of wage costs around the world, enabling firms to sell their product more cheaply and competitively.
- *Economies of large-scale production lower inflation.* The growth in trade allows competitive firms to produce and sell on a bigger scale so that their fixed production costs per unit (including advertising, product design, tooling and equipment) can be spread more thinly and the product sold at a lower price both at home and abroad.

Ultimately, what lower inflation means is that the real *purchasing power* of average incomes is usually higher (other things being equal or ‘*ceteris paribus*’). This enables per capita consumption to rise, thereby bolstering *material* living standards.

3.2.4 Trade boosts GDP and incomes, improving material living standards

Especially in the longer term, nations with *open* economies who have adopted the principles of trade liberalisation (combined with certain other policy measures) are far more likely to have *higher levels of efficiency*, national output and hence per capita incomes, than those with trade barriers. This can occur for the following reasons:

- *Greater efficiency boosts the potential GDP.* Countries will be forced to *specialise* in the production of commodities where they are most efficient (or least inefficient) and have a *comparative cost advantage* (where opportunity costs are relatively lowest). Greater efficiency in resource allocation grows their productive capacity and the size of their production possibility frontier, causing real incomes, consumption and *material* living standards to be higher.
- *Economies of large-scale scale boost efficiency and grow GDP.* Nations will gain average cost reductions or economies of large-scale production in design, production, marketing, finance and transport. This advances efficiency, profitability and the expansion of businesses, leading to higher output, incomes, consumption and *material* living standards.
- *Greater innovation boost GDP.* Because of stiffer global competition promoted through freer trade, firms are more likely to innovate and use new technology to lower their costs and grow technical efficiency, again boosting the nation’s productive capacity, real GDP, incomes and *material* living standards.
- *Imports of capital equipment boost GDP.* Through imports of machinery, resources, technology and know-how, trade facilitates the growth of a nation’s productive capacity, GDP, real incomes and *material* living standards.

3.2.5 Trade can create jobs and reduce unemployment, improving general living standards

Overall, it seems that increased international trade *creates jobs* and lowers unemployment, especially in the *long term*. This is because trade increases efficiency in resource allocation, lowers production costs, strengthens business profitability and expansion, and boosts economic growth. This should create more jobs, reduce unemployment, lift average incomes and improve both *material* and *non-material* living standards. In Australia’s case, more than one in four jobs are now generated from our exports alone.

However, especially in the *short term*, it is possible that the growth in trade (facilitated by trade liberalisation measures) might cause a rise in *structural unemployment* as uncompetitive firms close down, relocate to low-wage countries or restructure their production by substituting machines for workers. When this occurs, both *material* and *non-material* living standards could fall temporarily.



3.2.6 Trade enables access to more resources improving material living standards

Nations have different endowments of natural, labour and capital *resources*, causing them to *specialise* in producing particular types of goods and services. Some countries (including Australia) have vast natural resources that allow them to competitively produce more food and minerals than are needed locally. They can export the rest and use the income gained to purchase needed imports. For instance, nations such as China, India and Indonesia have plenty of cheap labour available for supporting manufacturing industries, while others (including Japan and Singapore) have good access to inexpensive finance that makes their purchase of capital equipment more affordable. It is through trade or exchange that a country can access the resources, goods and services that it lacks or cannot produce itself at the lowest possible price.

What international trade does is to grow the quantity and quality of resources available to local businesses, allowing them to boost their production. Similarly, by growing businesses, jobs, incomes and profits, trade allows governments to access and pay for the various types of resources it needs to produce public goods and infrastructure such as transport, education, health and defence, thus improving our *material* living standards.

3.2.7 Trade means greater consumer choice, improving general living standards

International trade has created a shopper's paradise that should increase the extent to which wants can be satisfied. Consumers now have an exciting smorgasbord of offerings from which to choose when buying clothes, cars, cosmetics, computers, holidays or foods. The range of goods and services is so wide that it would be impossible for any single country's producers to cater efficiently for all tastes. Having freer access to imports solves this problem and helps to raise living standards.

3.2.8 Trade can promote peace and improve non-material living standards

Trade brings people from different countries together and creates dialogue, understanding and cooperation. In addition, because of our inter-dependence, it may encourage nations to have *cordial relationships* with each other to promote exports and to maintain the supply of needed imports. Some studies have also shown that when there are economic opportunities to improve incomes and living standards, civil war and conflict are less likely. This especially improves *non-material* living standards.

3.2.9 Trade enriches culture improving non-material living standards

Trade creates a great *diversity* of goods and services that enriches the culture of nations and leads to more vibrant and interesting societies. This can support *non-material* living standards.

3.2.10 Trade has mixed effects on income distribution and material living standards

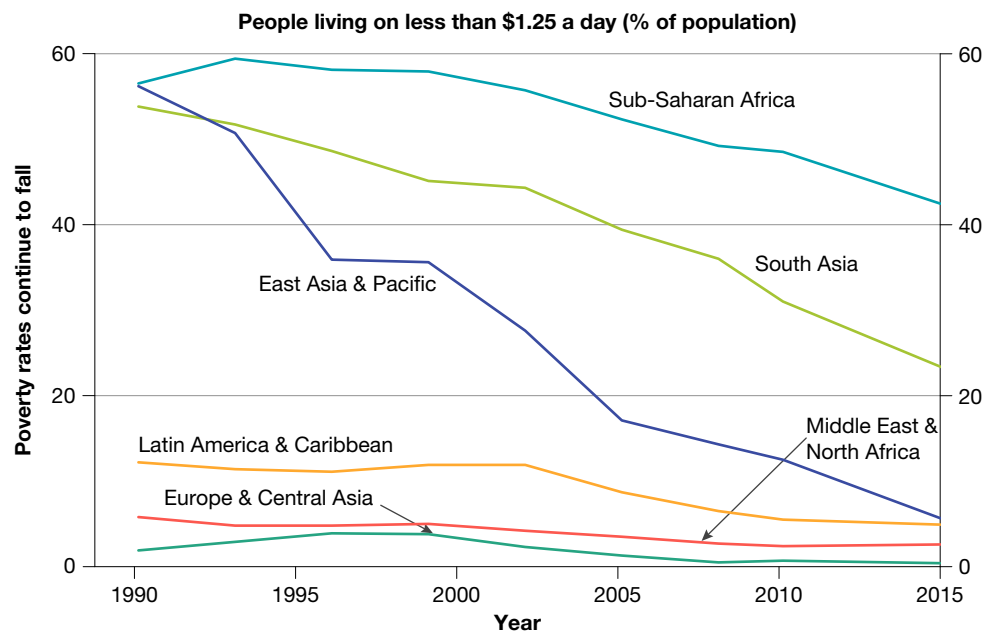
Around the world it has been observed that although real incomes have generally increased, there has been a rise in *income inequality* coinciding with the accelerated growth in international trade. This has provoked academic *debate* about whether trade is responsible for this.

On the one hand, by accelerating economic growth, creating jobs and suppressing inflation, global trade is likely to have led to *higher* real per capita incomes, purchasing power and *material* living standards for many.

These *positive* outcomes seem to especially apply in countries including China, where the rise in international trade since the early 1990s appears to have been one of the key factors in dramatically *reducing global poverty* rates by over 56 per cent from 1.9 billion people in 1990 to 836 million. Figure 3.5 shows that since 1990, poverty reductions have been greatest in East Asia (which includes China) and the Pacific, South Asia and Sub-Saharan Africa. In addition, trade has helped to grow government revenues, making it more affordable for them to provide better education, health and economic infrastructure that are required for economic growth and better living standards.



FIGURE 3.5 Trends in the reduction of extreme poverty by global region



Source: Graph copied directly from World Bank 2014, *Development Indicators*, p. 2.

However, on the other hand, experience from other countries, especially over the shorter term, shows that the rise in global trade (facilitated by trade liberalisation and structural reforms) may have contributed to lower incomes and *greater levels of inequality*. This could be due to the effect of stronger competition from imports depressing real wages by driving up the local price of basic food. This occurs when domestic producers are encouraged to sell overseas where they can get better prices for their crops than selling locally. In addition, trade has caused some local businesses to close down, possibly leading to structural unemployment and lower incomes.

3.2.11 Trade can sometimes weaken economic stability and undermine material living standards

With growing dependence on international trade, momentous economic events such as the global financial crisis (GFC) (2008–10) or a slowdown in a major economy (as happened recently in China), can spread globally. This can *reduce* economic stability by dragging other nations into recession. In turn, unemployment rises, average incomes fall and living standards across the world can be depressed.

Despite this, the opposite is also true. If overseas conditions are strong, these can offset periods of weak domestic economic activity locally and *improve* stability, thereby helping to maintain *material* living standards.

3.2.12 Trade can weaken the natural environment and general living standards

By growing exports and accelerating production, trade can have adverse direct and indirect effects on the *natural environment* both now and into the future:

- *Depletion of natural resources.* By increasing global output at a faster rate, it is likely that trade may cause the world's natural and other resources will be depleted and degraded at a faster rate, as is evident in many countries such as Indonesia, Nigeria, Ecuador and Brazil.
- *Higher carbon and other emissions.* The expansion of global trade and the world's GDP has involved increased carbon emissions. It has added to global warming, severe weather events, the displacement of coastal communities, the loss of life, the destruction of business and the pollution of rivers and soils that pose a threat to health. Increased reliance on the transportation of goods around the world has also added to environmental problems.
- *Accelerated urban problems.* The growth of cities encouraged by trade and higher levels of global production is likely to quicken, creating a host of urban problems, including overcrowding, waste disposal, transport congestion, injury from disasters and reduced health outcomes.

With weaker environmental outcomes, *material* and especially *non-material* living standards are likely to suffer.

3.2.13 Trade can prevent the development of new infant industries reducing material living standards

The liberalisation and growth of trade exposes domestic industries to stronger *competition* from often cheaper imports. This can discourage the growth of domestic *infant industries*, which typically have higher production costs and limited cash flow during their start-up phase, than well-established foreign rivals. As a result, growth in capacity and job creation may be limited, with *negative* consequences for economic activity and therefore *material* living standards.

-  **Weblinks**
- The big ideas of trade
 - Why international trade?
 - Foreign trade — an introduction
 - Better understanding global trade flows
 - How beneficial is world trade?
 - Comparative advantage and terms of trade
 - The gains from trade
 - International trade: absolute and comparative advantage
 - Comparative advantage and the tragedy of Tasmania
 - Specialisation and trade
 - Another look at comparative advantage
 - Comparative advantage

3.2 ACTIVITIES

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

Check your understanding

1. How might the growth of global trade positively and negatively affect society's living standards?

Applied economic exercises

1. (a) Explain why world trade has grown so quickly in recent decades. **(2 marks)**
- (b) Explain how each of the following points associated with the growth of international trade (and trade liberalisation) might affect material and non-material living standards.
 - i. Increased international specialisation in production based on comparative cost advantage **(2 marks)**
 - ii. Greater economies of large-scale production **(2 marks)**
 - iii. Better access to resources **(1 mark)**
 - iv. Environmental impacts **(1 mark)**
 - v. More consumer choice and lower prices **(2 marks)**
 - vi. Higher GDP and average incomes **(2 marks)**
 - vii. Job creation **(2 marks)**
 - viii. Promotion of world peace **(1 mark)**

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3.3 Recording international transactions on the balance of payments account

KEY CONCEPTS

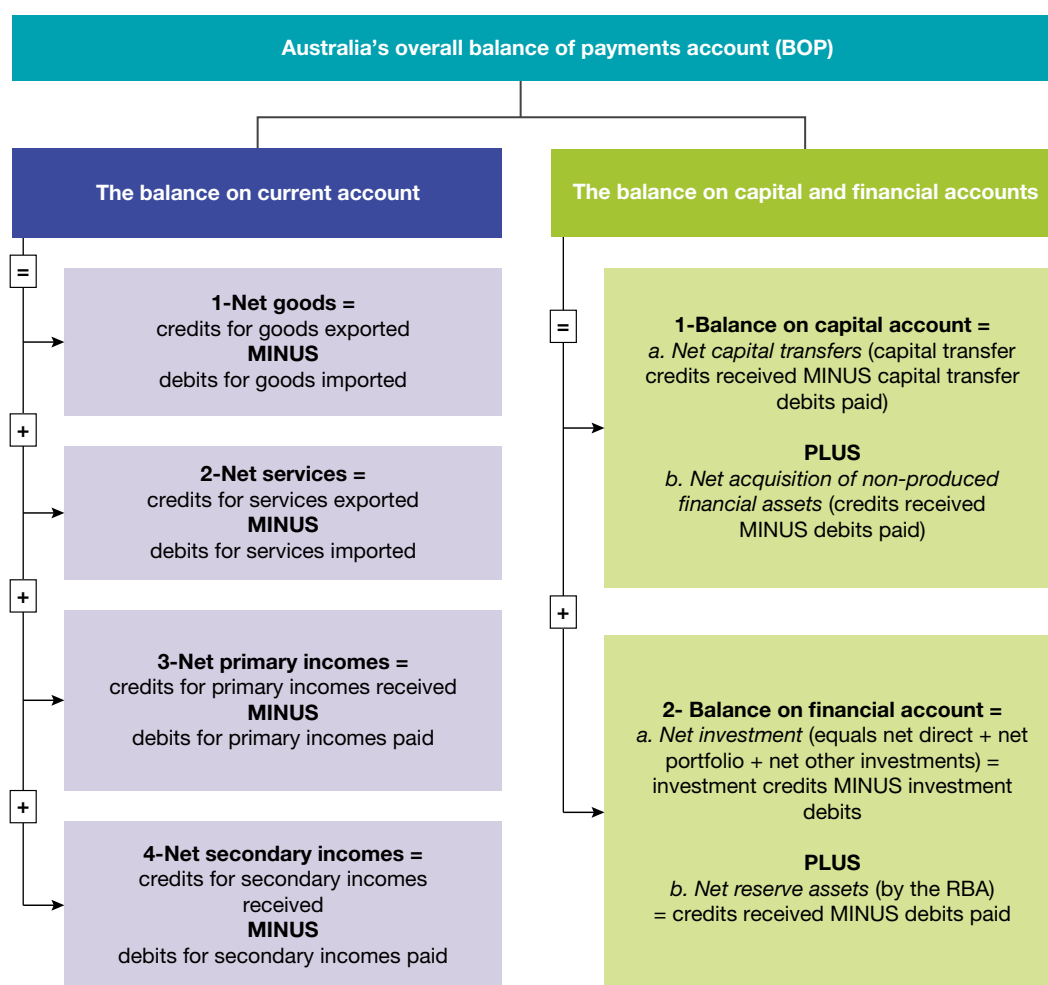
- the balance of payments and its components
- the relationship between the current account and the capital and financial account
- causes of Australia's current account deficit including cyclical and structural factors

Given the importance of international transactions involving the movement of goods, services and money capital between countries, it is vital that statistical records of these are kept using the *balance of payments account*. These records can be used to help monitor our economic performance.

3.3.1 The balance of payments account and its components

The **balance of payments account (BOP)** is an annual statistical record of the money value of different types of financial transactions between Australia and the rest of the world. For accounting purposes, money received by Australian residents is regarded as a credit, while money paid by us to overseas is classified as a debit. Because this is a zero balance account, the overall balance of payments account always balances and the total value of credits is equal to the total value of debits. The items recorded on the BOP are grouped into either current account transactions or capital and financial account transactions, before being further subdivided. These transactions are illustrated in figure 3.6.

FIGURE 3.6 Structure of Australia's balance of payments account

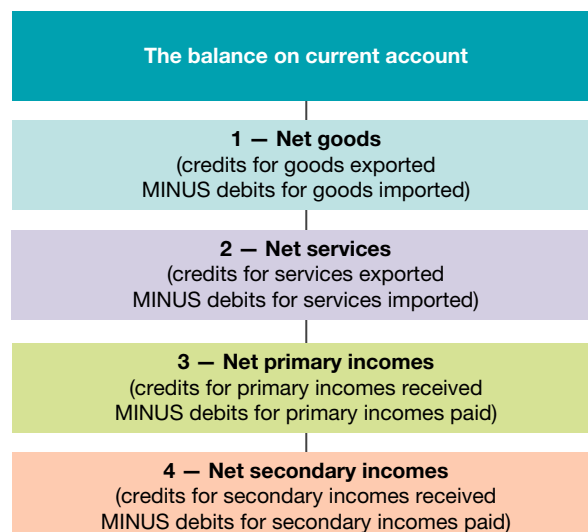


Balance of payments on current account

The **balance on current account** is broken down into four sub-accounts.

1. **Net goods.** This is the difference in total value between export credits for goods or merchandise sold overseas (e.g. wool, minerals and manufactured items) *minus* import debits for goods purchased from abroad (e.g. oil, electronic equipment and machinery).

2. **Net services.** This is the difference between the value of service credits received by Australia (e.g. from tourism, education, transportation, construction, financial, royalties and licence fees) *minus* service debits paid abroad (e.g. for transportation, tourism, education, royalties and licence fees, and insurance).
3. **Net primary incomes.** This is the difference in value between income credits received from overseas (e.g. wages, salaries, interest, dividends and profits) *minus* income debits paid out abroad (e.g. for wages, salaries, interest, rent, dividends and profit remittances).
4. **Net secondary incomes.** This is the difference between the value of secondary income credits received by our residents (e.g. non-life insurance transfers such as pensions) *minus* the value of secondary income debits paid abroad (such as gifts, taxes and some foreign food aid donated by our residents). Secondary incomes are different from other transactions in that they are a one-way transaction with nothing exchanged in return.



To calculate the overall balance on current account, remember the following relationships.

$$\begin{array}{c} \text{Overall balance} \\ \text{on current} \\ \text{account} \end{array} = \begin{array}{c} \text{Net} \\ \text{goods} \end{array} + \begin{array}{c} \text{Net} \\ \text{services} \end{array} + \begin{array}{c} \text{Net primary} \\ \text{incomes} \end{array} + \begin{array}{c} \text{Net secondary} \\ \text{incomes} \end{array}$$

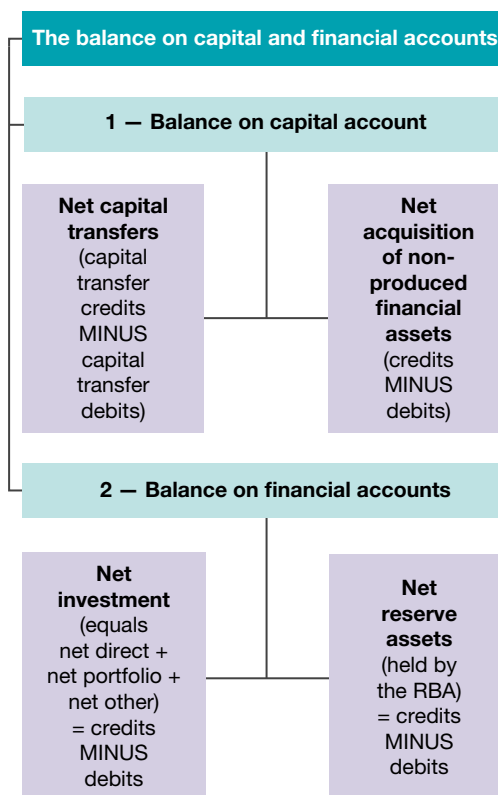
In Australia's case, the overall balance turns out to be a large **current account deficit (CAD)**, where the total value of debits exceeds the total value of credits measured over a period of time such as a year. As we shall see, the existence of the CAD means that there will need to be a rise in the nation's net external liabilities, which are made up of debt (borrowed money) and equity (ownership).

The balance of payments on capital and financial account

The *balance on capital and financial accounts* is broken down into *two* main sub-accounts: the balance on capital account and the balance on financial account.

1. **Balance on capital account.** The balance on capital account records capital transactions including net capital transfers and the net acquisition of non-produced, non-financial assets.
 - *Capital transfers* generally involve the net inflow of funds into Australia by permanent migrants.
 - The *net acquisition/disposal of non-produced, non-financial assets* covers the excess of credits over debits for the sale of copyright, patents, overseas franchises (such as KFC and McDonald's) and trademarks of a tangible nature.

Of these two items, capital transfers are by far the largest item.

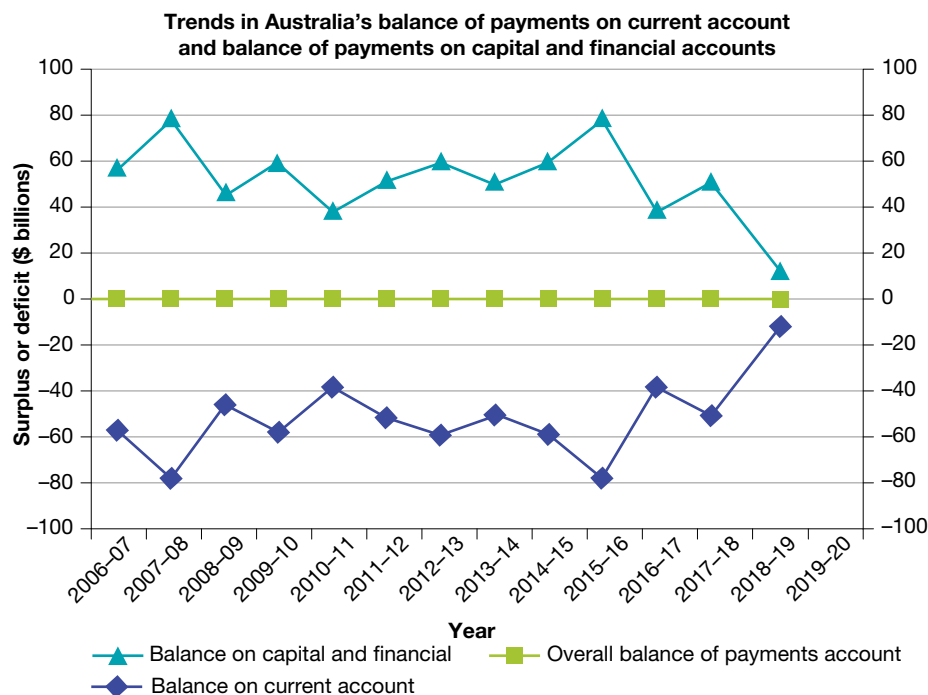


2. **Balance on financial account.** The *financial account* shows how Australia funds or pays for its CAD. The balance on financial account records the value of total credits for investments and borrowing received by Australia from abroad (the inflow of funds) *minus* total debits for investments and lending by Australians abroad (the outflow of funds). It records the following transactions involving foreign *financial assets* and *liabilities*.

- Net **direct investment** involves the purchase, setting up or expansion of companies and assets in Australia by foreigners classified as credits (the inflow of funds or assets) *minus* similar investments overseas by Australian residents classified as debits (the outflow of funds or liabilities).
- Net **portfolio investment** is the difference in the value of transactions by foreign individuals purchasing Australian shares, debt and securities *minus* the value of similar assets purchased by our residents. Portfolio investment flowing in from overseas is recorded as a credit (the inflow of funds or assets), while this sort of investment abroad by Australian residents is recorded as a debit (the outflow of funds or liabilities) on our financial account.
- Other investment includes credits (the inflow of funds or assets) *minus* debits (the outflow of funds or liabilities) for loans, deposits and trade credits.
- **Net reserve assets** contains both the Reserve Bank of Australia (RBA) and government transactions involving dealings in reserves of foreign currencies, gold, special drawing rights and required contributions to the International Monetary Fund (IMF). Moneys received from overseas are categorised as credits (the inflow of funds or assets), while payments overseas are categorised as debits (the outflow of funds or liabilities) on Australia's financial account.
- **Net errors and omissions** reflects inaccuracies in the above calculations and estimations. When this category is taken into account, the positive balance on Australia's capital and financial account will exactly offset the negative balance on current account (the CAD).

Overall, Australia's *balance on capital and financial accounts* is *positive*. This means there has been a net financial inflow seen as a rise in the nation's *liabilities* overseas (consisting of either foreign debt or foreign equity in the case of ownership of Australian assets such as property or shares). It will *exactly offset* the *deficit* recorded on our current account, allowing the overall BOP account to be in balance. This is shown in figure 3.7.

FIGURE 3.7 Trends in Australia's balance on current account, capital and financial account, and overall balance of payments



Source: © Australian Bureau of Statistics.

3.3.2 Relationships between the current account and the capital and financial accounts

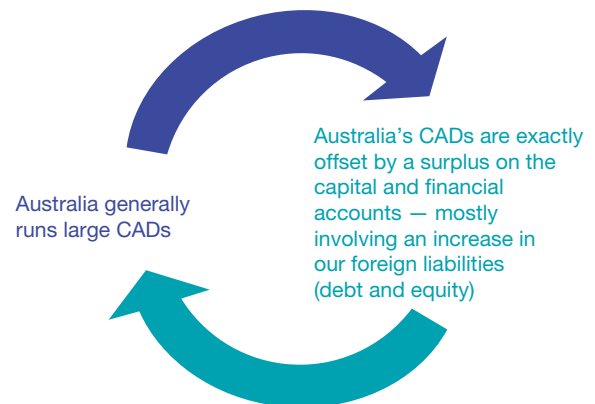
As mentioned, overall BOP account should exactly *balance* or be equal to *zero*. That is, Australia's *current account deficit* (where the total value of debits exceeds credits for goods, services, primary incomes and secondary incomes) is exactly *equal* to or offset by a *capital and financial account surplus* (where the total value of credits exceeds debits for net capital and investments). This directly increases our net foreign debt (NFD).

As shown in figure 3.8, the existence of ongoing CADs means that there has to be an offsetting rise in the nation's *net external liabilities*, consisting of foreign *debt* (borrowed money) and foreign *equity* (ownership). Here, we are essentially drawing on savings from the rest of the world to finance our high levels of investment and consumption, and recording this as a net surplus (inflow) on our capital and financial accounts. Clearly this is a two-way relationship between the current account and the capital and financial accounts making up the overall BOP.

As we shall see later, the main problem is that Australia has a **national savings–investment gap**. Here, there is a *low* level of savings by households, firms and governments *relative* to our *high* level of investment by households, firms and governments.

This tends to make foreign borrowing and interest rates relatively cheaper and, by adding to our NFD, it means there are heavy primary income debits to pay overseas (interest on borrowed credit, dividends to foreign shareholders, and profits to foreign owned firms), adding greatly to our CAD.

FIGURE 3.8 The relationship between Australia's current account and the capital and financial accounts



3.3.3 Overview of the causes of Australia's CAD

Each year Australia records a substantial *current account deficit* (CAD) on its balance of payments (BOP). As shown in figure 3.9, Australia has a persistent CAD. This means that the total value of *debits* for goods, services, primary incomes and secondary incomes is *greater* than the equivalent value of *credits*.

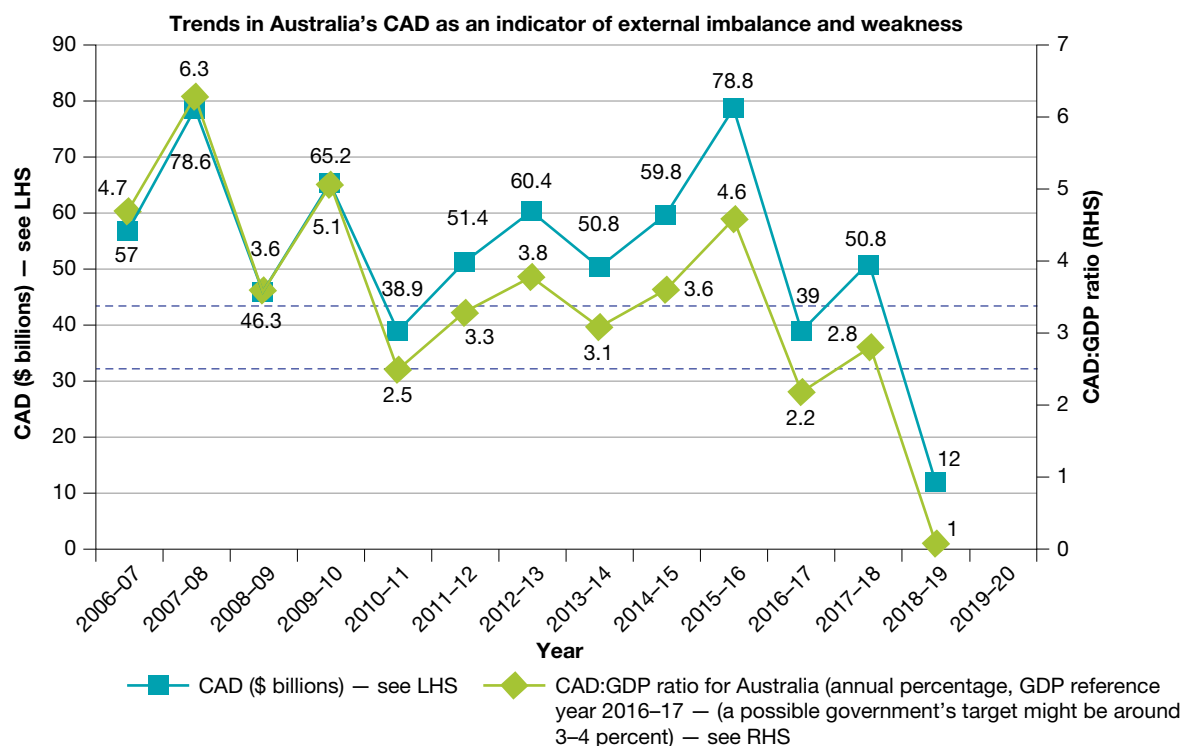
Commentators often seize on our CAD as a sign of *external instability* or weakness. Rather than simply using the size of the CAD in billions of dollars as a guide to our performance in this area, often the value of our CAD is expressed as a percentage of the overall size or value of our GDP or the economy's size. This creates a *CAD to GDP ratio* where a level above perhaps 3 or 4 per cent is sometimes taken as an indication that Australia is not *paying its way* in its international financial transactions.

Figure 3.10 breaks down Australia's *current account* into its *four* sub-accounts: net goods, net services, net primary incomes and net secondary incomes. As can be seen from the lower part of the graph, overall there is usually a CAD because most of the components are negative. Of special importance, however, is the huge *deficit* recorded every year for *net primary incomes*. This signals that Australia is very dependent on heavy overseas *borrowing* and a reliance on *capital inflow*, thereby necessitating high levels of income debits.

So why does Australia generally have such a *large* CAD that show external weakness? To answer this question we need to investigate the roles played by *two* sets of factors:

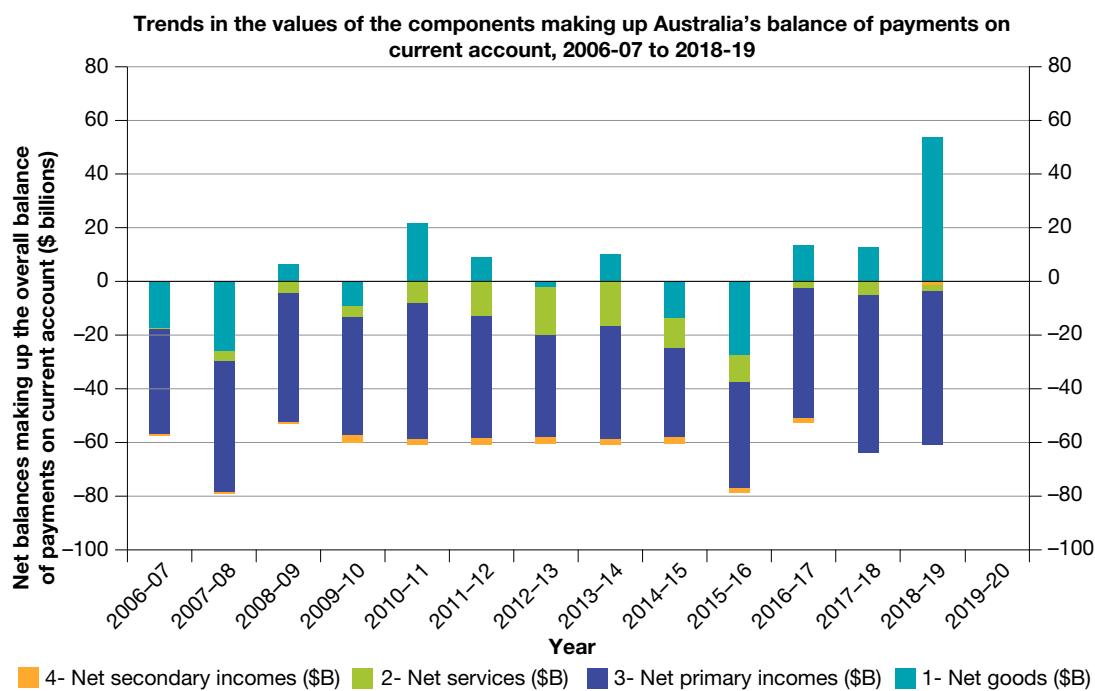
1. Changes in *aggregate demand factors* can affect the size of the **cyclical CAD**
2. Changes in *aggregate supply factors* can affect the size of the **structural CAD**.

FIGURE 3.9 Indicators of Australia's external imbalance and weakness, 2006–07 to 2018–19



Source: © Australian Bureau of Statistics.

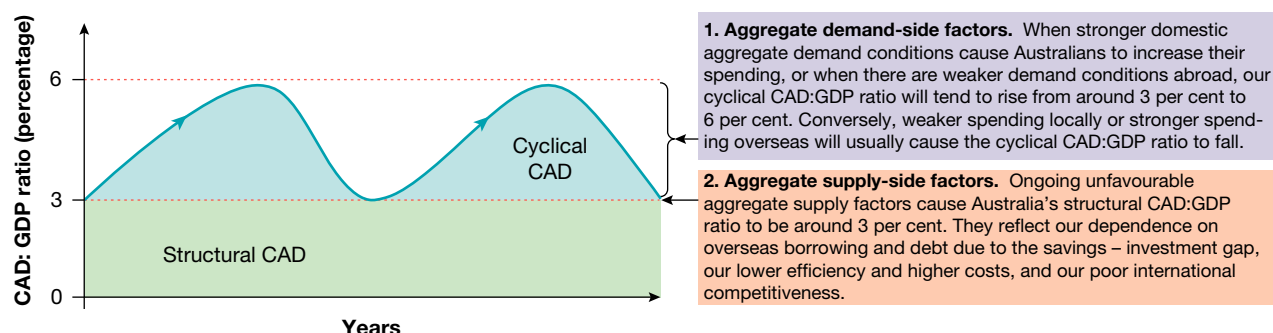
FIGURE 3.10 Changes in the components making up Australia's balance of payments current account



Source: © Australian Bureau of Statistics.

The influence of these *two* sets of factors on the size of the CAD is illustrated hypothetically in figure 3.11.

FIGURE 3.11 How aggregate demand factors and aggregate supply factors can contribute to Australia's CAD and external instability.



Changing aggregate demand factors can affect the size of the cyclical CAD

As we shall soon see, generally *stronger demand conditions* originating from *within Australia* (such as rises in our domestic levels of consumer and business confidence, disposable incomes and population), and higher levels of domestic activity, tend to cause a rise in the size of our *cyclical CAD*. This is shown in figure 3.11 where the CAD:GDP ratio ranges from perhaps 3–6 per cent of GDP or even higher.

There are several reasons why *stronger* spending *domestically* can *increase* the *cyclical CAD*:

- Strong *domestic* spending can sometimes cause increased shortages of goods and services in an economy where there is little unused productive capacity. This leads to higher domestic prices for locally produced goods and services. Inflation also makes spending on imports relatively more attractive, adding further to the cyclical CAD.
- Strong *domestic* spending can reduce the potential level of Australia's exportable surplus that is available to sell overseas, increasing the cyclical CAD.
- Stronger *domestic* spending can cause the RBA to raise interest rates to control inflation. This then tends to make Australia relatively more appealing to investors, attracting additional capital inflow. Higher interest rates also drive up our **exchange rate**, thereby reducing the value of overseas spending on our exports relative to our spending on imports. Again this increases the cyclical CAD.

In *reverse*, when aggregate demand factors originating *within Australia* are generally *weaker* and domestic spending and activity are growing more slowly, the *cyclical CAD* usually *shrinks*.

One slight complication here is that when *economic conditions overseas* are *stronger* and these accelerate the value of spending on Australian exports (due to higher volumes and/or better commodity prices), our cyclical CAD should *fall*, whereas a slowdown overseas reducing the demand for our exports, can increase our cyclical CAD.

Changing aggregate supply factors can affect the size of the structural CAD

Figure 3.11 also shows that generally *less favourable aggregate supply factors* — such as the lack of domestic savings, higher costs of production, poor international competitiveness and severe weather events — cause Australia to have an ongoing structural CAD, perhaps equal to at least around 3 per cent of GDP.

- The lack of domestic *savings* causes us to depend on borrowing from overseas, leading to income payments abroad and a bigger *structural CAD*.
- Higher *production costs* in Australia and hence poor international competitiveness can reduce our exports sales, while encouraging locals to buy imports. This adds to our *structural CAD*.

However, in *reverse*, generally *more favourable aggregate supply factors* (including lower labour and other costs, improved productivity, a higher savings ratio and ideal climatic conditions) should help to reduce our *structural CAD*.

Let us now take a closer look at the *specific* aggregate demand and aggregate supply factors that have affected the *size* of Australia's CAD:GDP ratio in recent years.

3.3.4 Recent aggregate demand factors affecting Australia's cyclical CAD

Recently, Australia experienced a mixture of aggregate demand conditions. On the one hand, there were some aggregate demand factors that tended to *increase* Australia's *cyclical CAD*. However, at the same time, there were also other aggregate demand factors offsetting this and causing our *cyclical CAD* to be *lower* than usual. Overall, the CAD-GDP ratio has recently averaged just 2.5 per cent. So the general rule is this:

- Australia's *cyclical CAD* will *decrease* if domestic aggregate demand factors cause our spending on imports to fall and or overseas spending on our exports to rise.
- However, Australia's *cyclical CAD* will *increase* if domestic aggregate demand conditions cause our spending on imports to rise and or overseas spending on our exports to fall.

Relatively strong economic activity overseas and a rise in our terms of trade

The *level of overseas economic activity* (relating to the strength of GDP and economic growth among our major trading partners such as China, Japan, South Korea, Europe and the United States) is an important aggregate demand factor that has recently helped to grow the level of overseas spending on Australia's exports of goods and services by around 3–4 per cent a year. This boosted credits on the current account, helping to reduce our cyclical CAD.

Quite strong economic growth overseas in recent years has also helped to *lift* Australia's *terms of trade* (a rise in the ratio of the prices the world is prepared to pay us for our commodity exports against the prices we have to pay for imports). In turn, a smaller quantity of exports can purchase a greater quantity of imports, strengthening the level of credits relative to debits for net goods, thereby reducing Australia's *cyclical CAD*.

This relationship is clearly illustrated in figure 3.12. Despite exceptions, it generally shows how relatively stronger economic growth among our major trading partners usually increased our terms of trade and reduced the size of Australia's *cyclical CAD*.

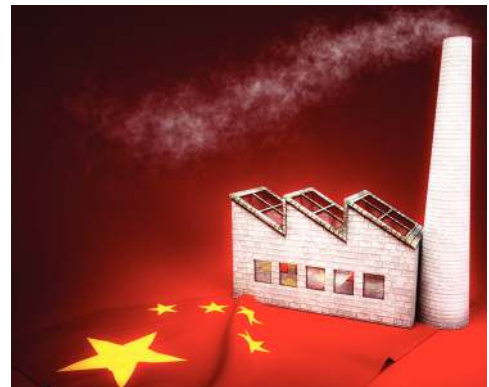
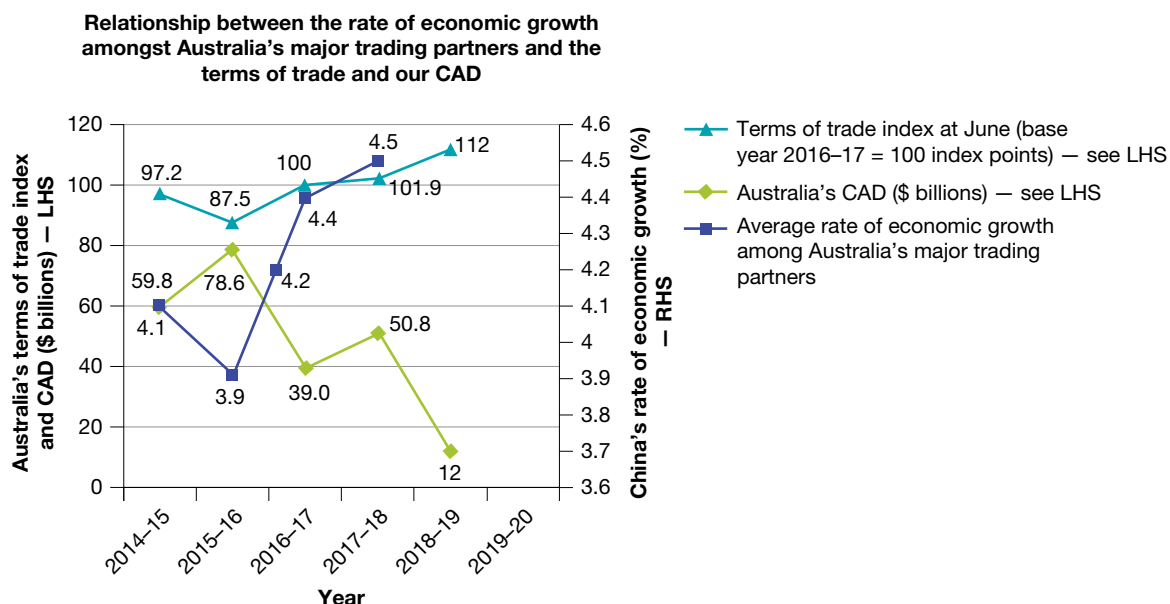


FIGURE 3.12 Relationship between economic growth among Australia's major trading partners and the terms of trade and our CAD



Source: Data derived from ABS, 5302.0, table 30 and 5206.0, Table 3; RBA, Statistics.

A relatively weaker exchange rate for the Australian dollar

The exchange rate for the Australian dollar is an aggregate demand factor that can affect spending on Australian-made goods and services, and hence the size of our cyclical CAD.

Recently, a relatively *weaker* Australian dollar has tended to reduce our cyclical CAD. This is because exports are relatively cheaper, boosting sales or credits, while imports are dearer, depressing debits. As a result, our *cyclical* CAD has been lower.

Fairly flat consumer confidence and slowing business confidence

Recently, flat domestic consumer confidence and falling levels of business confidence about future economic prospects, have both tended to slow the growth in our spending on imports of goods (e.g. cars and electrical appliances, machinery) and services (e.g. travel). As weaker domestic aggregate demand factors, these trends have tended to reduce Australia's *cyclical* CAD.

Slow rise in real disposable income per head

The relatively slow rise in Australia's real household disposable incomes in 2017–18 tended to curb our spending on imports, reducing debits for goods and services, and hence our *cyclical* CAD.

Low interest rates

Record low interest rates recently have had mixed effects on Australia's CAD. On the one hand they have helped to lower the cost of borrowing of credit to help finance household consumption and business investment spending. Some of this may have added to spending on imports of goods and services and created a bigger *cyclical* CAD.

However, as we shall soon see, on the other hand, lower interest rates relative to those abroad in say the United States, have tended to weaken the exchange rate and make our exports more attractive abroad, relative to imports. This helped to slow our *cyclical* CAD.

Reductions in the size of the government's budget deficit

Over the last few years, the Australian government has *reduced* the size of its *budget deficit* through a rise in budget tax and other receipts relative to government spending and other outlays. In itself, this tended to slow the growth in aggregate demand, curbing spending on import and other debits (e.g. reduced outlays on foreign aid), thereby helping to depress our *cyclical* CAD.

3.3.5 Recent aggregate supply factors affecting Australia's structural CAD

In recent years, Australia experienced some *favourable aggregate supply conditions* that lowered costs and improved our international competitiveness. In turn, these factors recently helped to keep our *structural* CAD *lower* than otherwise (e.g. the overall CAD:GDP ratio averaged just 2.5 per cent). This was despite the fact that at the same time, there were also other *less favourable supply factors* that were working in the opposite direction, tending to increase the *structural* CAD. So when thinking about the structural CAD, keep in mind the following ideas:

- *Less favourable aggregate supply factors* that decrease efficiency, increase costs and reduce the international competitiveness of locally-made Australian exports against imports, tend to increase the structural CAD in the long term.
- *More favourable aggregate supply factors* that increase efficiency, lower costs and strengthen the international competitiveness of local businesses against imports, tend to cause the structural CAD to fall in the long-term.

As we shall see, there has recently been a mixture of these two types of aggregate supply factors affecting Australia's *structural* CAD.

Reductions in real unit labour costs (RULCs)

Wages are the major production cost in many industries, often accounting for around 60–70 per cent of the overall total. Hence, the recent fall in Australia's level of real wage costs per unit of output has been an important favourable aggregate supply factor that has helped to make locally-made goods and services more internationally competitive price wise, strengthening the ability of local firms to sell here against imports and to export abroad. In turn, this has helped to lower our *structural* CAD, even though Australia still faces the problem of being a high-wage country.

The relatively low cost of oil

Oil is an important cost in the production and distribution of goods and services made locally. Recently, oil prices have been relatively low by historic standards. This has reduced the cost of imports, keeping debits and hence the CAD lower than otherwise.

Oil costs are also reflected in the final selling price of many goods and services, so lower prices have helped to improve Australia's international competitiveness. This tended to boost the value of our export credits against import debits, lowering the *structural* CAD.



Reduced rates of company tax and improvements in infrastructure

Recently, the Australian government has cut the rate of tax for small and medium-sized companies from 30 per cent to 27.5 per cent, with further stepped reductions to 26 per cent and then down to 25 per cent by 2021–22. By increasing after-tax profits of local firms, this policy should allow Australian companies to sell at cheaper prices and be more internationally competitive both at home and abroad. This should help to boost our export credits relative to import debits, keeping our *structural* CAD lower than otherwise.

There has also been a significant increase in government budget outlays to improve the efficiency and adequacy of national infrastructure in areas including road, rail and air transport, along with telecommunications, electricity, gas and water. Because businesses need to use infrastructure, reducing bottlenecks should help to keep production costs lower, and again improve the international competitiveness of local firms.

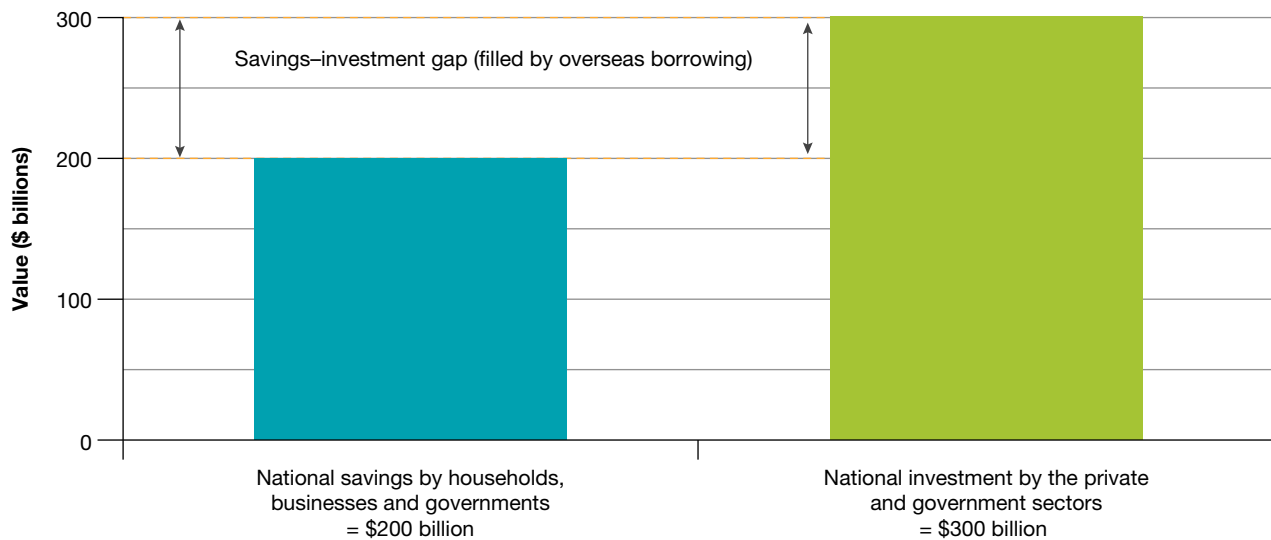
A lack of national savings and a dependence on overseas borrowing

The level of *national savings* relative to *national investment* is perhaps the most important aggregate supply factor that has affected the size of Australia's *structural* CAD.

Unfortunately, Australian households, businesses and governments do *not* save enough to finance the high level of national investment spending by firms and governments, needed to grow the economy's productive capacity and maintain high living standards. This causes Australia to have a large, long-term *national savings–investment gap* that has become the biggest single reason for our large *structural* CAD.

Figure 3.13 hypothetically illustrates this problem. Here, for example, national savings of say, \$200 billion a year, is insufficient to finance national investment of \$300 billion a year creating a saving–investment gap of \$100 billion each year. Australia's solution to this sort of problem is to fill this gap through an increase in foreign borrowing and liabilities of, say, \$100 billion a year. This adds to our *net foreign debt* or NFD (the amount by which Australia's liabilities abroad exceeds what people abroad owe us).

FIGURE 3.13 Australia's savings–investment gap shown hypothetically



However, the problem with this rise in debt and overseas liabilities is that these also increase primary income debits (increase payments of interest, dividends and profits) on the BOP current account, adding to the size of Australia's *structural CAD*.

Weaker growth in productivity

Productivity indicates efficiency. There are two main measures of productivity. *Labour productivity* reflects changes in GDP divided by the total number of hours worked, while *multifactor productivity* is calculated by dividing GDP by the total value of labour, capital and other inputs used. Efficiency levels are seen as an aggregate supply factor that affects our international competitiveness and the size of the country's *structural CAD*.

Unfortunately, productivity growth has also been very weak, rising by an annual average of just 0.6 per cent in recent years. This has undermined Australia's international competitiveness, slowing export sales, lifting imports and adding to the *structural CAD*.

Climate change and severe weather conditions

Over the last two years, Australia has experienced more severe weather events than in the past. These included the Townsville floods of January to February 2019, a severe drought in eastern Australia during 2016–17–18–19 (and longer in some parts), bushfires in Victoria, Tasmania and NSW in early 2019, and cyclones Trevor, Marcus and Veronica in 2019.

These events reduce Australia's productive and export capacities by damaging infrastructure (roads, railways, water supply systems, power and telecommunications) and businesses. They also add to production costs, undermine profits and make local firms less internationally competitive both here and abroad, thereby adding to our *structural CAD*.



The effects of our ageing population and immigration

Australia has an *ageing population* that is tending to slow the growth in the supply or availability of labour resources. Other things being equal, this is a less favourable aggregate supply factor because it tends to increase wage costs. In turn, this has tended to reduce the international competitiveness of our exports of goods and services against imports. Additionally, our ageing population has led to labour and *skills shortages* that act as bottlenecks, limiting the growth of export industries and adding to the *structural CAD*.

Immigration on the other hand (around 160 000 to 190 000 per year, of whom over 60 per cent are skilled with an average age of around 37), is potentially a more favourable aggregate supply factor that helps to keep wage costs lower and eases labour bottlenecks. As a result, it has helped to make exports more internationally competitive, tending to reduce our *structural CAD*.

on Resources

 **Weblink** The relationship between the current account balance and exchange rates

3.3 ACTIVITIES

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Check your understanding

1. Describe the features of Australia's BOP account.
2. What is the CAD?
3. Explain the relationship between the CAD and balance on capital and financial account.
4. Identify the main factors affecting Australia's cyclical CAD.
5. Identify the main factors affecting Australia's structural CAD.

Applied economic exercises

1. (a) Explain what is meant by the BOP. Distinguish the balance of payments current account from the balance of payments capital account. **(2 marks)**
(b) Copy table 3.2, then classify each transaction and indicate where and how each would initially be recorded on Australia's BOP account. **(12 marks)**

TABLE 3.2 Classifying Australia's international transactions for recording on the BOP account

Transaction	Major section of Australia's BOP account (e.g. current account, or capital and financial accounts)	Minor sub-account making up Australia's current account, or capital and financial accounts	Recorded as a credit (+) or debit (-) on Australia's BOP
i. You purchase a laptop computer made in Korea for \$2800			
ii. Australia sells lamb to the US and Indonesia worth \$750 million			
iii. You donate \$50 in food aid to Ethiopia			
iv. BHP pays \$15 million in dividends to overseas shareholders			
v. The government pays \$12 billion in interest on its overseas debt			

(continued)

TABLE 3.2 Classifying Australia's international transactions for recording on the BOP account
(continued)

Transaction	Major section of Australia's BOP account (e.g. current account, or capital and financial accounts)	Minor sub-account making up Australia's current account, or capital and financial accounts	Recorded as a credit (+) or debit (-) on Australia's BOP
vi. You make a \$10 phone call using an overseas phone company			
vii. An immigrant transfers \$45 000 to an Australian bank account			
viii. Qantas sells an old aircraft to Indonesia's Garuda Airlines for \$7 million			
ix. Grand Prix tickets worth \$4.5 million are sold to overseas visitors			
x. Chinese investors purchase residential and rural properties worth \$25 billion			
xi. James Packer buys shares in an overseas media company worth \$9 million			
xii. Overseas students from India, China and Thailand purchase \$5 billion of education from Australian secondary schools and universities			

- (c) Use table 3.3 to calculate the following balance of payments items for Australia, 2017–18. Show your working.
- Net goods
 - Net services
 - Net primary incomes
 - Net secondary incomes
 - The overall balance of payments on the current account
 - The overall balance of payments on the capital and financial account

(6 marks)

TABLE 3.3 Australia's balance of payments for 2017–18

Item	Value ('000 millions)	Item	Value ('000 millions)
Goods credits	315	Primary income credits	58
Goods debits	302	Primary income debits	116
Services credits	88	Secondary income credits	9
Services debits	93	Secondary income debits	10

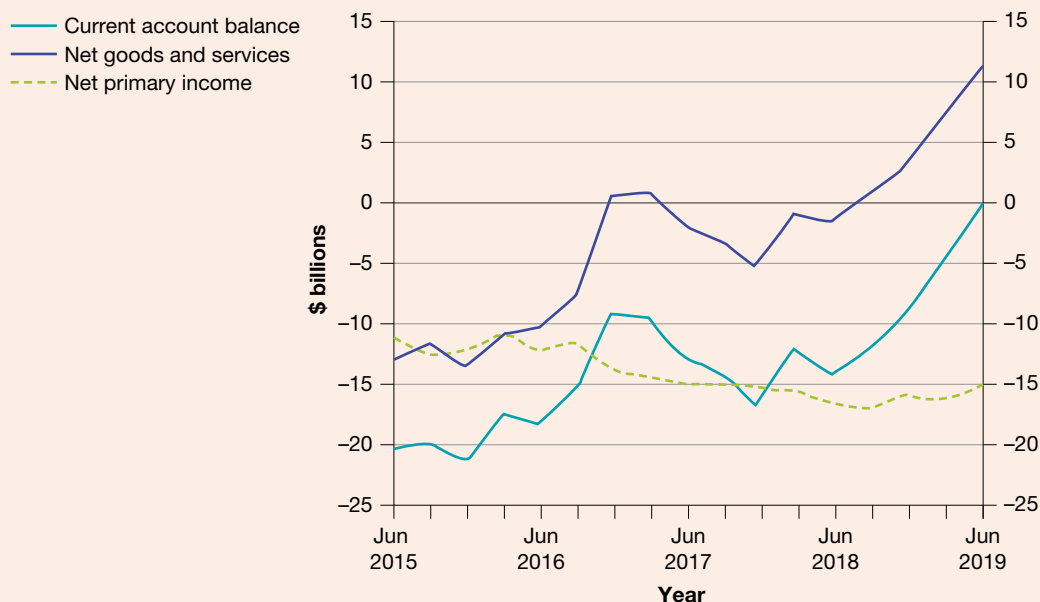
Source: © Australian Bureau of Statistics.

- (d) Explain the *type of relationship* that exists between Australia's balance of payments on current account and the balance of payments on the capital and financial accounts?

(2 marks)

2. (a) The size of Australia's CAD changes over time. Distinguish Australia's cyclical causes of the CAD from the structural causes of the CAD. **(2 marks)**
- (b) Examine figure 3.14 relating to some of the key aggregates making up Australia's BOP account.
- Describe the trend in the current account balance over the period. **(1 mark)**
 - According to the graph, which area was the *main* cause of the negative current account balance? **(1 mark)**
 - Suggest *two* likely reasons for the quarterly *surplus* recorded on net goods and services in December 2016 and June 2019. **(2 marks)**

FIGURE 3.14 Changes in the components of Australia's current account



Note: Seasonally adjusted estimates at current prices.

Source: © Australian Bureau of Statistics.

- (c) Australia's CAD is affected by both *aggregate demand factors* and *aggregate supply factors*. Giving examples, explain the difference between these two types of factors. **(4 marks)**
- (d) Explain what is meant by Australia's *savings–investment gap* and why it exists. **(3 marks)**
- (e) From the following list, select *two aggregate demand factors* and *two aggregate supply factors* and explain how they have affected the size of Australia's cyclical or structural CAD during the past two years. Where possible, illustrate your answer with reference to some specific factors or events to help show the cause–effect relationship.
- A drought in the northern and some eastern parts of Australia as during 2012–19
 - Generally slower rates of economic growth in China, Japan and Europe during 2013–19
 - Cumulative budget deficits totalling over \$360 billion between 2008–09 and 2018–19, which the Australian government partly financed by overseas borrowing
 - The 20+ per cent fall in the exchange rate for the Australian dollar against the US dollar between 2013 and 2019
 - A rise in international terrorism
 - The staging of the Soccer World Cup in Melbourne
 - A sustained slowdown in multifactor productivity from 2002–03 to 2018–19
 - A rise in Australia's terms of trade index during 2016–19
 - Lower oil prices under US\$70 per barrel in early 2019
 - A fall in the annual level of the household savings ratio in Australia from over 10 per cent to around less than 3 per cent of GDP between 2013–19
 - An overall decline in consumer and business confidence in Japan and China during 2013–19
 - A fall in domestic business confidence during 2017–18–19

- xiii. Higher world commodity prices and terms of trade during 2016–19
- xiv. A increase in the interest rate differential between 2013 and 2019, with rates in Australia falling below those in the United States
- xv. Speculation that the exchange rate for the Australian dollar will fall even further

(8 marks)

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3.4 The net foreign debt (NFD)

KEY CONCEPT

- the composition and cause of net foreign debt and net foreign equities

Foreign debt is often associated with a country not *living within its means* or *paying its way* in international financial transactions. Here we might think of the problems experienced in recent years by countries such as Greece, Spain and Italy, where there has been poor financial management over many years. Hence, debt levels often tell us something about the country's external situation.

3.4.1 Definition of NFD and NFE

Net foreign debt (NFD) is the difference in value between what Australia has borrowed from and owes overseas (our liabilities) minus what Australia has lent or invested abroad (our assets). It is sometimes used as an indicator of Australia's external position and includes borrowing through the issue of bonds, loans, advances and overdrafts.

$$\text{Net foreign debt (NFD)} = \begin{array}{c} \text{Australia's liabilities} \\ \text{(What Australia has borrowed} \\ \text{from and owes overseas)} \end{array} - \begin{array}{c} \text{Australia's assets} \\ \text{(What Australia has lent} \\ \text{or invested overseas)} \end{array}$$

The NFD differs from foreign *equity* (the ownership of assets such as shares and property) because debt implies that there is an obligation to pay interest and, at some time in the future, to repay the original capital borrowed. As previously mentioned, the NFD is largely the consequence of a deficiency of national savings by the private sector (households and firms) and the public sector (various governments) to finance our high levels of national investment. As mentioned already, this is called the savings–investment gap.

Foreign borrowing through the creation of debt is one type of overseas capital inflow. The other (and much less significant) type of capital inflow is foreign equity. **Net foreign equity (NFE)** represents the excess value of foreign-owned Australian assets (such as property, shares and the retained earnings of overseas owned companies operating here) over overseas assets owned by Australian residents.

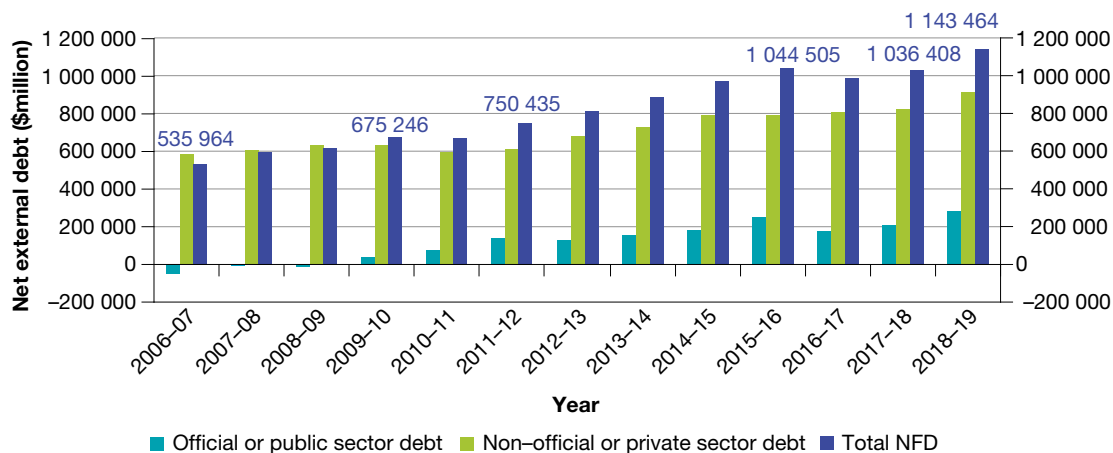
$$\text{Net foreign equity (NFE)} = \begin{array}{c} \text{Value of foreign-owned} \\ \text{Australian assets} \end{array} - \begin{array}{c} \text{Value of foreign assets} \\ \text{owned by Australians} \end{array}$$

3.4.2 The composition of and trends in Australia's NFD

Australia's NFD has grown quite rapidly over the last decade (see figure 3.15). It is now over \$1 trillion, or equal to nearly 60 per cent of GDP (using GDP as a measure of the overall size of the economy). For Australia, there are *two* main types of overseas borrowers:

- official (public or government sector) borrowers, who generate **official debt**
- non-official (private sector) borrowers, who generate **non-official debt**.

FIGURE 3.15 The composition of Australia's net foreign liabilities (\$ millions at June)



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Source: RBA Statistics, International Trade and External Finance, Table I5.

1. Public sector or official government borrowing

Governments (the public sector) sometimes borrow credit overseas to help finance their *budget deficits* where the value of tax and other receipts is not enough to pay for government spending and other budget outlays. During the global financial crisis (2008–09) and the ensuing years, federal, state and local governments relied heavily on this option to help finance their often large budget deficits. Indeed, the Australian government ran up over \$360 billion in debt as a result of running at least 11 budget deficits (between 2008–09 and 2018–19). To the extent to which the government sourced credit from overseas, this added to our NFD, so that by 2018–19, the official or public sector's share of Australia's NFD was about 20 per cent.

2. Private sector or non-official borrowing

Despite the importance of official or government overseas debt, it is the *private sector* that accounts for the remaining 80 per cent of all overseas borrowing. The main private sector or non-official borrowers in Australia are large companies that need to raise capital for financing business expansion and takeovers. Part of this represents *net foreign equities* that arise from the excess value of foreign-owned Australian assets (such as companies, shares and property) over overseas assets owned by Australian residents. Additionally, our banks now source from overseas, a large proportion of the money they use for lending to households and firms. Indeed, Australia's high domestic interest rates and lack of national savings have exacerbated this problem.

Contrary to popular opinion, debt is *not* always bad. It can be good — provided it is used wisely for sound investment projects that deliver ongoing returns and future benefits. Our overseas debt can also make up for the deficiency in local savings and make access to credit more affordable when domestic interest rates are high. However, as with all debt, the main problem is affording the ongoing interest payments. When the Australian dollar depreciates, the debt burden (if denominated in a stronger currency such as the US dollar) may become very heavy indeed. Interest and other repayments then require more Australian dollars to be converted into other currencies. Additionally, if our foreign debt rises too quickly and exceeds our capacity to sustain repayments, our credit rating as a nation may be downgraded by rating agencies

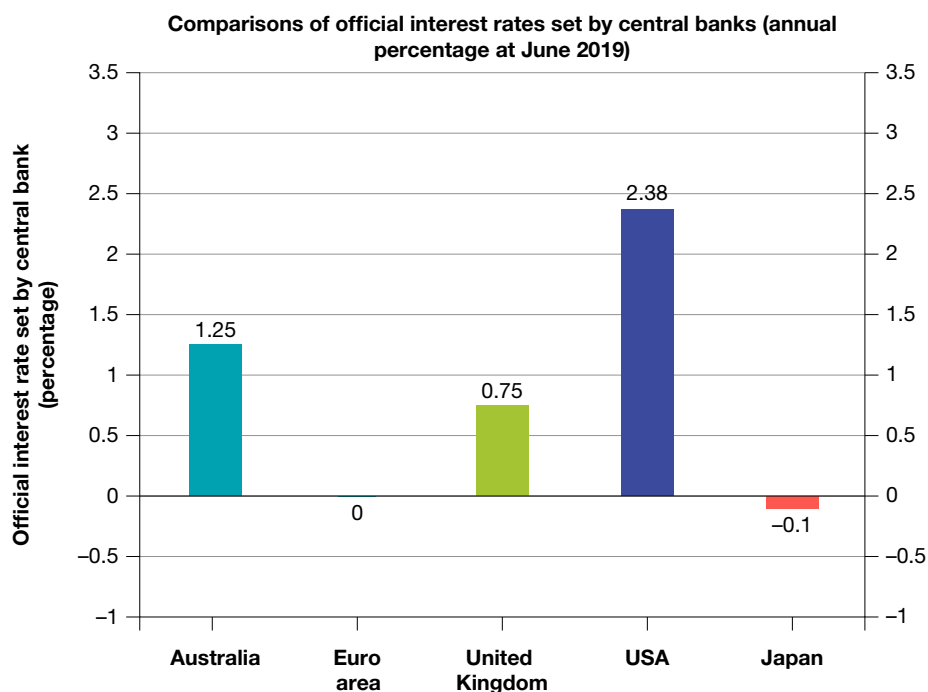
(Standard & Poors, or Moody's) to reflect a higher risk. This downgrading translates into even higher domestic interest rates (as found in countries with high levels of sovereign or government debt such as Greece).

3.4.3 The causes of Australia's NFD

There are many reasons for the rise in Australia's NFD, some of which have already been mentioned:

- *Lack of domestic savings.* As explained earlier, Australia has a *national savings–investment gap*, where current savings by Australian households, businesses and governments are not sufficient to finance our high levels of investment spending. This lack of savings has contributed to our high interest rates relative to those in some countries overseas. Figure 3.16 illustrates this problem. In turn, relatively high domestic interest rates encourage our banks, businesses and governments to borrow or source credit from overseas, thereby adding to our NFD. Indeed, Australia's NFD (both private and government sector borrowing overseas) has increased from 46 per cent of GDP in 2002–03 to a record high almost 60 per cent in 2017–18.

FIGURE 3.16 Australia's relatively high interest rates encourage foreign borrowing and add to our NFD.



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- *Many budget deficits.* The general slowdown in Australia's economic activity since the GFC led to 11 expansionary government budget deficits (where the value of the government's budget outlays is greater than the value of budget receipts) between 2008–09 and 2018–19. These were designed to provide some ongoing stimulus to spending. In part, these deficits were financed by borrowing abroad, usually by selling government bonds, adding to our NFD and CAD.
- *Opportunities for foreign investors.* Because of Australia's vast natural resources, there are many opportunities for foreign investors to make high returns. Although this inflow of investment capital helps grow our economy's productive capacity, it also adds to our external liabilities.
- *Sound economic, political and social climate.* Australia offers foreign investors a relatively stable economic and political environment, with sound infrastructure, efficient institutions (including the legal and financial systems), and an educated and skilled labour force. In addition, Australia is regarded as a good place to live and hence there has been massive foreign investment in residential

property. In addition, countries such as China are using rural investment here to enhance their food and resource security at home. This adds to our external liabilities.

- *A lower value for the Australian dollar.* A lower Australian dollar, as seen between 2014–19, makes the purchase of our assets (businesses, shares, property) by non-residents relatively cheaper and hence more attractive. This adds to Australia’s external liabilities.
- *Financial sector deregulation and globalisation.* In recent decades, there has been considerable financial sector deregulation. Combined with trade liberalisation, deregulation has increased overseas capital inflow and foreign ownership of assets such as businesses, shares and property, despite supervision of large projects by the Foreign Investment Review Board (FIRB).

3.4.4 The effects of Australia’s NFD

Foreign debt can have both positive and negative effects for a country.

Positive effects of foreign debt	Negative effects of foreign debt
• Finance for future expansion • Access to cheaper credit	• Creation of economic hardship • The burden of debt repayment • Adds to the CAD

Benefits of foreign debt

Sustainable levels of debt can be a good thing, providing that it is used wisely to finance investment expenditure rather than consumption spending (to satisfy our immediate wants). *Foreign debt* can provide a number of *benefits*:

- *Finance for future expansion.* Foreign debt can make up for a deficiency in local savings. This borrowing can help finance private and public sector investment spending that is needed to grow the nation’s future productive capacity, GDP, jobs and employment opportunities.
- *Access to cheaper credit.* As Australian interest rates are often higher than some rates overseas, foreign debt can provide access to cheaper credit. This lowers production costs for businesses and acts as a favourable aggregate supply factor that can lead to business expansion.

Costs of foreign debt

There are some *downsides* to foreign debt:

- *Creation of economic hardship.* As with all debt, the main problem is repaying interest and the principal. Excessive levels of government or sovereign debt create great hardship, eventually forcing governments to lift taxes and cut spending, contracting economic activity. As seen in some European countries such as Greece, this causes economic activity to shrink and unemployment to rise.
- *The burden of debt repayment.* The burden of debt repayment is especially heavy if the debt is expressed in another currency and the value of the Australian dollar falls against that currency. It can mean a reduction in our credit rating and, ultimately, higher interest rates.
- *Adds to the CAD.* The NFD is the major reason for Australia’s large deficit in net primary incomes and our big CAD. This is largely because foreign debt requires the payment of interest by Australian residents to overseas lenders, meaning that Australian dollars usually need to be sold in the foreign exchange market. This increases the supply of Australian dollars relative to demand and ultimately, weakens the currency and diminishes its purchasing power.

Resources

 **Weblink** Foreign debt

3.4 ACTIVITIES

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Check your understanding

1. What is the NFD?
2. Identify and explain the main causes of Australia's NFD.
3. Discuss the costs and benefits of the recent rise in Australia's NFD.

Applied economic exercises

1. (a) What is the *national savings–investment gap* and how has this affected Australia's NFD? (2 marks)
(b) Distinguish Australia's NFD from NFE. (2 marks)
(c) Distinguish *official debt* from *non-official debt*, noting which of the two is higher. (2 marks)
(d) Identify and explain *two* factors that have led to the rise in *official* foreign debt in recent times. (2 marks)
(e) Identify and explain *two* factors that have led to the rise in *non-official* foreign debt in recent times. (2 marks)

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3.5 The terms of trade

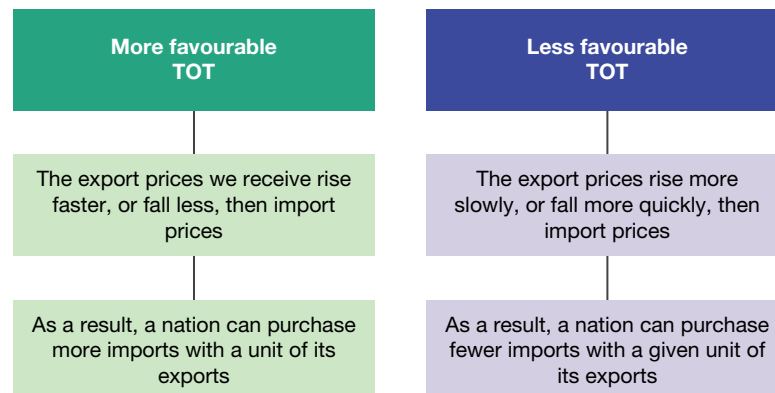
KEY CONCEPTS

- the terms of trade: meaning and measurement and the factors that may influence the terms of trade
- the effect of movements in the terms of trade on the current account balance, the domestic macroeconomic goals and living standards

Changes in the *terms of trade* are one of the most important influences on Australia's BOP current account, AD, domestic macroeconomic conditions and our overall living standards.

3.5.1 Definition of the terms of trade

The **terms of trade (TOT)** measures the ratio for the average price the world is prepared to pay Australia for our exports against the average price we pay the world for our imports. Put another way, it is the amount of imported goods that can be purchased with a unit of exported goods.



3.5.2 Measurement of the terms of trade

The TOT is measured by means of an *index* that uses a base year (where the index equals 100 points) to compare following years.

$$\text{The terms of trade index (TOT)} = \frac{\text{Export price index}}{\text{Import price index}} \times 100$$

Here the *export price index* is constructed by measuring changes in the *average prices* of a basket of Australian exported goods, with items weighted according to their relative importance in trade. Similarly, the *import price index* measures changes in the average prices of our imported goods, with items weighted according to their relative importance.

The TOT is primarily regarded as an *aggregate demand factor* affecting spending levels. This is because the *prices* we receive or pay in international transactions affect the *value* of our exports and the value of our imports.

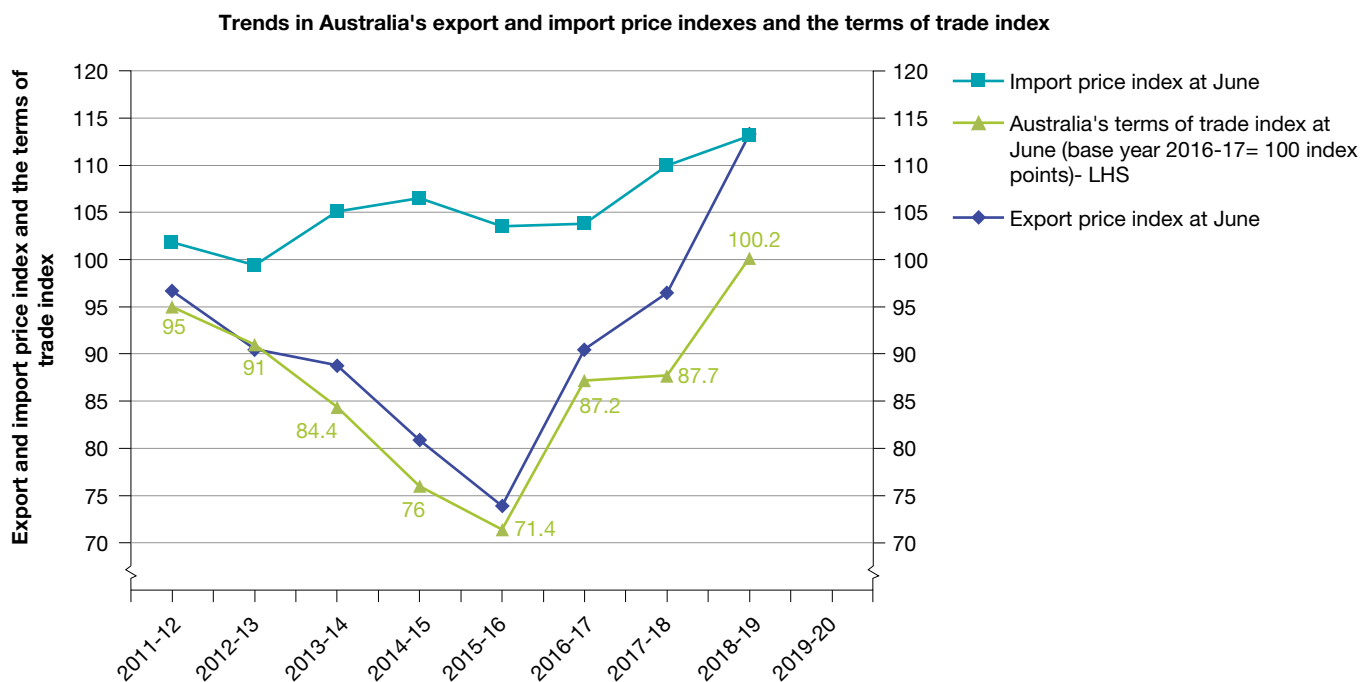
When, for example, the world chooses to pay us *lower prices* for our exports (as happened with our commodities during 2013–16) because of *weaker global demand*, this normally causes a *drop* in the *value of exports* (lower injections) sold, relative to the value of imports (higher leakages). In turn, this tends to *slow AD* and economic activity.

In reverse, if the world pays generally *higher prices* for our exports relative to imports because there is a greater shortage or *global demand is stronger* (as in 2016–17–18–19), this normally *boosts the value of exports* (higher injections) relative to imports (lower leakages). It strengthens our level of AD and economic activity.

3.5.3 Trends in Australia's terms of trade

Australia's TOT deteriorated up to 2015–16 as export prices fell relative to import prices. More recently in 2016–17–18–19, generally, better export prices saw stronger terms of trade.

FIGURE 3.17 How changes in export and import prices affect Australia's terms of trade index

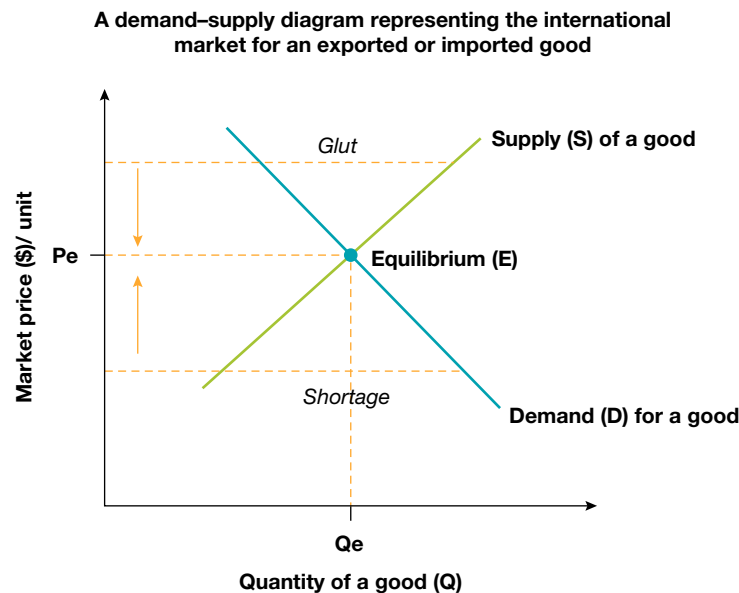


Source: © Australian Bureau of Statistics.

3.5.4 Factors that may influence Australia's terms of trade

Australia's TOT display the *prices* received for the basket of our *exports* relative to those paid for a basket of *imports* in world markets. In turn, these reflect the various *global conditions of demand* for our exports and imports, and the *global conditions of supply* of exports and imports. Assuming that global competition is reasonable and countries are *price takers*, the price of each good (P_e) is largely determined by its level of demand (D) and supply (S) at market equilibrium (E). This situation is shown hypothetically in figure 3.18.

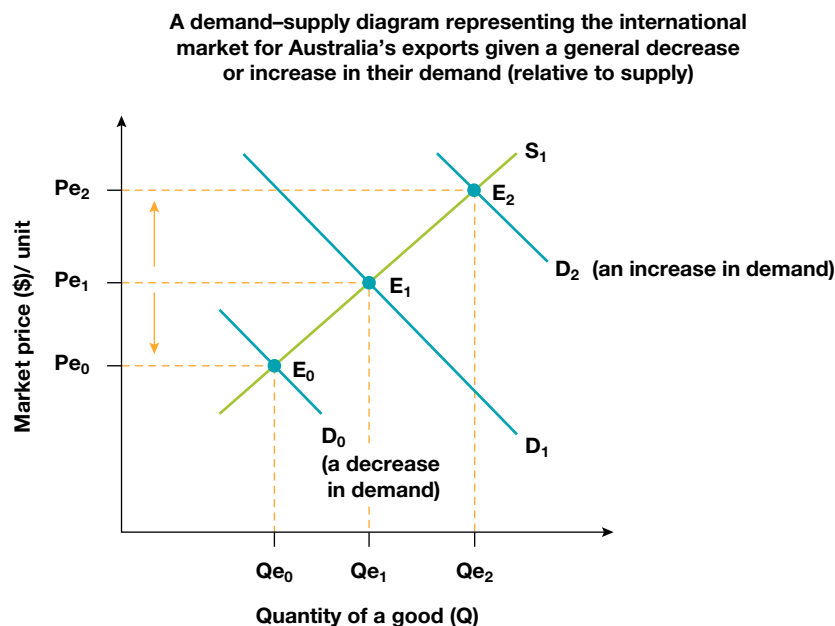
FIGURE 3.18 How global demand and supply of each good traded can determine its market price and thus influence Australia's terms of trade.



Changes in global conditions of demand

The level of *world demand* for Australia's exports has a tremendous influence on the prices we are paid and hence our TOT. This is shown in figure 3.19.

FIGURE 3.19 How a general increase or decrease in the global demand for our exported goods might help to cause their price to rise or fall, thus affecting Australia's terms of trade.



Hence, when there is an overall *decrease in the global demand* for Australian exports of commodities (such as wheat, beef, wool, coal and iron ore) and manufactured items (relative to their global supply) at a given price (D_1 to D_0), the *prices* we receive for exports are *lower* (P_1 to P_0), perhaps depressing the TOT. Global demand for our exports may *decrease* as a result of several factors:

- weaker rates of economic growth among our major trading partners such as China (as occurred 2013–17), Japan or the United States
- depressed levels of consumer and business confidence abroad reducing the demand for exports of our goods
- reduced growth rates in global disposable income or population.

In reverse, when there is an *increase in the global demand* for our exports (D_1 to D_2) at a given price (relative to their global supply), this tends to cause a *rise* in export *prices* (P_1 to P_2), perhaps *increasing* our terms of trade.

Global demand for our exports may *increase* as a result of several factors:

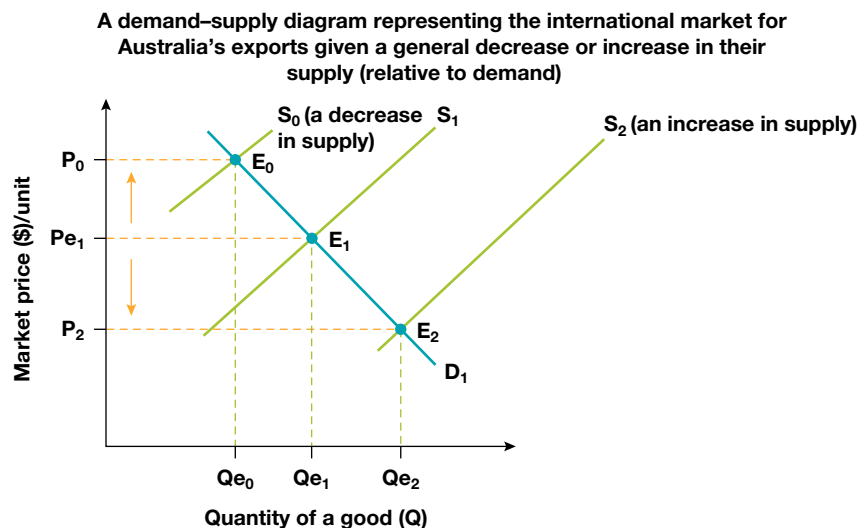
- stronger rates of economic activity among our major trading partners
- greater levels of consumer and business optimism overseas
- faster growth rates in global disposable income or population.

We have investigated how a general increase or decrease in world *demand* for Australian exports affects our *export prices* and hence the TOT. Let us turn now to consider how the global conditions of *supply* can affect our terms of trade.

Changes in global conditions of supply

Changes in the *global supply* of commodities that Australia exports also have a significant influence on the prices we are paid and hence our TOT. This is illustrated in figure 3.20.

FIGURE 3.20 How a general increase or decrease in the global supply of traded goods can help to cause a rise or fall in our export prices, thus affecting Australia's terms of trade.



Hence, when there is an *increase in the global supply* (S_1 to S_2) of the commodities Australia exports (such as wheat, beef, wool, coal and iron ore) and manufactured items (relative to their global demand) at a given price, the general prices we receive for exports are *lower* (P_1 to P_2). This tends to make our TOT *less favourable*.

The *global supply* of the things we export may *increase* due to the following:

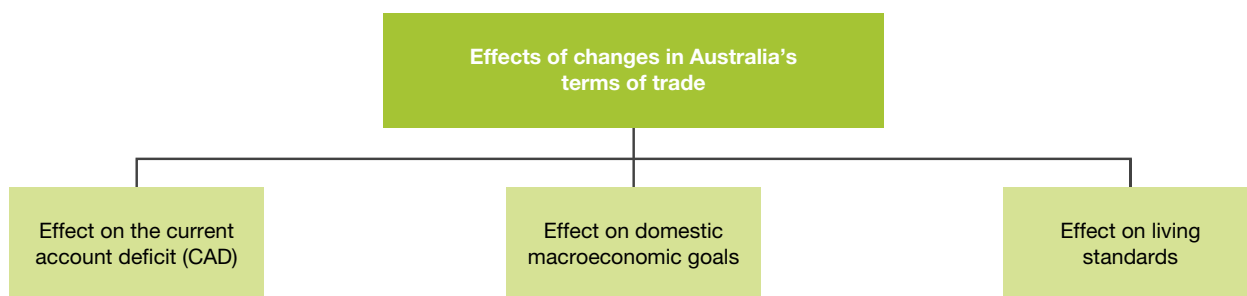
- new discoveries of minerals or the opening of new mines
- the effect of new technology on productivity and hence production
- ideal domestic and international growing conditions for crops.

By contrast, when there is a *decrease in the global supply* of the commodities and goods that Australia exports at a given price (S_1 to S_0), the prices received tend to *rise* (P_1 to P_0), and with them, possibly our terms of trade. Supply might *fall* due to the following:

- resource depletion and exhaustion
- declining productivity
- severe climatic conditions here or overseas.

3.5.5 Effects of movements in Australia's terms of trade

Australia's TOT has very significant effects, not just on the CAD and exchange rate, but also on AD and the level of domestic macroeconomic goals and living standards.



Effects of a change in the terms of trade on Australia's CAD

When the *terms of trade* rise or fall (due to changes in our export *prices* relative to import *prices*), this will affect the *values* of both exports and imports and hence the size of Australia's CAD.

- A *fall in the TOT* tends to cause the CAD to *rise*. This is because when we receive relatively lower prices for our exports, for example, it often means that there is a relatively weaker demand internationally for our goods. In turn, the value of credits for our exports usually decreases, while dearer global prices paid by us for imports tend to increase the value of import debits, adding to the CAD.
- A *rise in the TOT* usually results in a *decrease* in the CAD. This is due to higher prices causing a rise in the value of credits for exports relative to debits for imports.

Effects of a change in the terms of trade on domestic macroeconomic goals

The TOT is an important *aggregate demand factor* that can affect the level of spending and hence influence the achievement of otherwise of Australia's domestic macroeconomic goals.

- A *decline* in the TOT tends to *weaken* the value of our export sales (lower injections perhaps) relative to import spending (higher leakages), and hence in itself, tends to slow AD. In turn, this impacts on the government's *three* key domestic macroeconomic goals:
 - the cyclical rate of *economic growth* will tend to *slow* as new orders decline and firms cut their production to avoid further unplanned rises in their stocks of goods
 - the rate of cyclical *unemployment* will tend to *rise* because firms cut production and hence reduce their demand for resources including labour
 - demand *inflation* may *slow* because with rising unsold stocks of goods, many sellers are likely to discount their prices.
- A *rise* in the TOT, which means we are receiving better prices for our exports relative to those paid for imports. This tends to boost the value of net exports (higher injections relative to leakages) strengthening AD. In turn, this impacts on the government's *three* key domestic macroeconomic goals:
 - the cyclical rate of *economic growth* will tend to *accelerate* as firms try to lift production in response to rising orders and falling levels of unsold stocks
 - the rate of cyclical *unemployment* will tend to *fall* because as firms try to lift their production, they increase their demand for resources including labour
 - demand *inflation* may start to *rise* especially if there is no unused productive capacity, because with falling stocks of goods, widespread shortages can develop causing higher prices.

Effects of changes in the terms of trade on living standards

There are several ways whereby a change in the terms of trade can affect both material and non-material living standards.

- A *decline* in the TOT usually tends to lower our living standards. This is because if we receive lower prices for our exports relative to those paid for imports, the value of our export sales falls (lower injections) relative to the value of imports (higher leakages) thereby slowing AD. As mentioned, this tends to weaken economic growth and cause a rise in cyclical unemployment. This usually means lower average incomes, and hence reduced purchasing power, consumption and material living standards. In addition, because of higher unemployment, this especially erodes some aspects of non-material living standards relating to the quality of daily life by increasing unhappiness, stress levels, feelings of social isolation and failure, and reducing physical and mental health outcomes.
- In reverse, a rise in the TOT usually improves our living standards. This is because if we receive better prices for our exports relative to those paid for imports, the value of our export sales rise relative to the value of imports, accelerating AD. As mentioned, this tends to lift economic growth and cause a drop in cyclical unemployment. This usually means higher average incomes, and hence improved purchasing power, consumption and material living standards. In addition, because of lower unemployment, this especially strengthens our non-material living standards by tending to improve happiness along with physical and mental health outcomes, and reduce stress levels and feelings of social isolation.



Resources



Weblink Comparative advantage and terms of trade

3.5 ACTIVITIES

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Check your understanding

1. Define what is meant by Australia's TOT.
2. What is meant by the phrase *less favourable TOT* for Australia?
3. Identify and explain how both aggregate demand and aggregate supply factors can affect Australia's TOT.
4. Explain how changes in the TOT affect each of the following variables:
 - (a) the CAD
 - (b) the exchange rate.

Applied economic exercises

1. (a) Explain how Australia *measures* the terms of trade. **(2 marks)**
(b) Examine table 3.4 showing the hypothetical data relating to a country's export price index and import price index.
 - i. Showing the formula, *calculate* the TOT index for the four years 2016–17 to 2019–20. **(2 marks)**
 - ii. Describe the trend in this country's TOT index over the period. **(1 mark)**

TABLE 3.4 Data relating to a country's terms of trade

Year	Export price index	Import price index	TOT index
2015–16 (base year)	100	100	100
2016–17	130	120	
2017–18	110	110	
2018–19	90	100	
2019–20	80	90	

- (c) What are the general determinants or *causes* of changes in Australia's TOT index? **(2 marks)**
- (d) Identify and explain the key factors that caused Australia's TOT index to rise between 2017 and early 2019. As part of your answer, illustrate the impacts of these factors hypothetically on D–S diagrams representing global markets for our exports and imports. **(4 marks)**
- (e) How would you expect a rise in Australia's TOT index to affect each of the following variables?
- The size of our CAD **(2 marks)**
 - The achievement of our key domestic macroeconomic goals **(4 marks)**
 - Living standards **(4 marks)**

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3.6 The exchange rate

KEY CONCEPTS

- factors affecting the value of the exchange rate including relative interest rates, demand for exports and imports, capital flows, the terms of trade and relative rates of inflation
- the effect of exchange rate movements on the current account balance, the domestic macroeconomic goals and living standards

Because different countries use different currencies, it is necessary to swap or *exchange currencies* when conducting international trade and other financial transactions. It is essential that we have a system to swap or exchange the currency of one country (such as the Japanese yen, the euro or the US dollar) into that of another (such as the Australian dollar or the British pound). Currencies are swapped at different exchange rates, and these rates are generally determined by the number of buyers and sellers of each currency in the foreign exchange market. Over time, exchange rates move up and down. Among other things, these changes affect the prices we pay for imports of foreign goods such as electronics and oil, relative to the prices people overseas pay for Australian goods such as iron ore and holidays, and thus changes in the exchange rate also affect our levels of AD, GDP and employment.

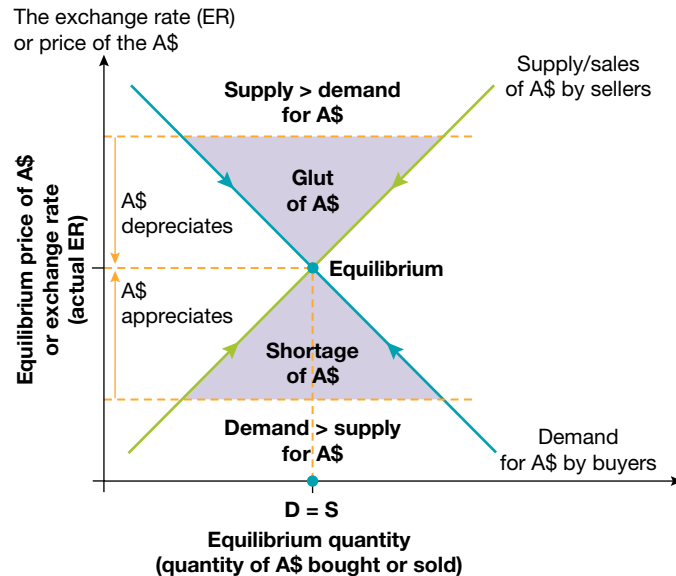


3.6.1 Definition and measurement of the exchange rate

The *exchange rate* measures the price or value of the Australian dollar when it is swapped for other currencies. Exchanging currencies is necessary because a nation's residents normally want to be paid in the currency unit appropriate for their country.

Australia has a *floating exchange rate*, where the value or the equilibrium price for the Australian dollar is decided in the **foreign exchange market** by currency buyers (demanders) and currency sellers (suppliers). This is shown in figure 3.21.

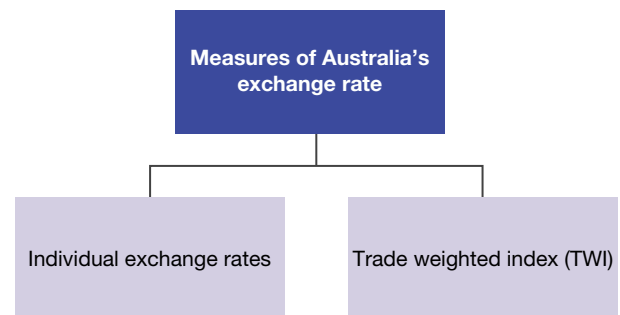
FIGURE 3.21 How the exchange rate is determined in the foreign exchange market for the Australian dollar (A\$)



The exchange rate for the Australian dollar will *appreciate* (rise) in the foreign exchange market when there is less selling (a decrease in supply) or more buying (an increase in demand) of our currency. This may follow stronger than expected trade figures, improvements in the terms of trade, strong overseas economic activity, rises in domestic interest rates relative to overseas rates, speculation of a rising dollar, and improved price competitiveness of our economy against prices in economies overseas. However, the exchange rate will *depreciate* (fall) when there is more selling and less buying of our dollar. This may reflect rapid domestic economic growth, strong consumer and business confidence locally, cuts in local interest rates, global recession, depressed commodity prices, and the release of worse than expected trade figures. One consequence of a floating exchange rate like this is that market forces (i.e. changing demand and supply conditions for the Australian dollar) sometimes create instability and unpredictability in the exchange rate for the Australian dollar.

The *two* main measures of Australia's exchange rate are:

1. **Individual exchange rates.** The Australian dollar has a separate exchange rate for every currency in the world, including the rate for US dollars, the euro, British pounds sterling, Japanese yen, Chinese renminbi and the Indonesian rupiah. These rates express how many currency units for each country can be purchased with one Australian dollar.

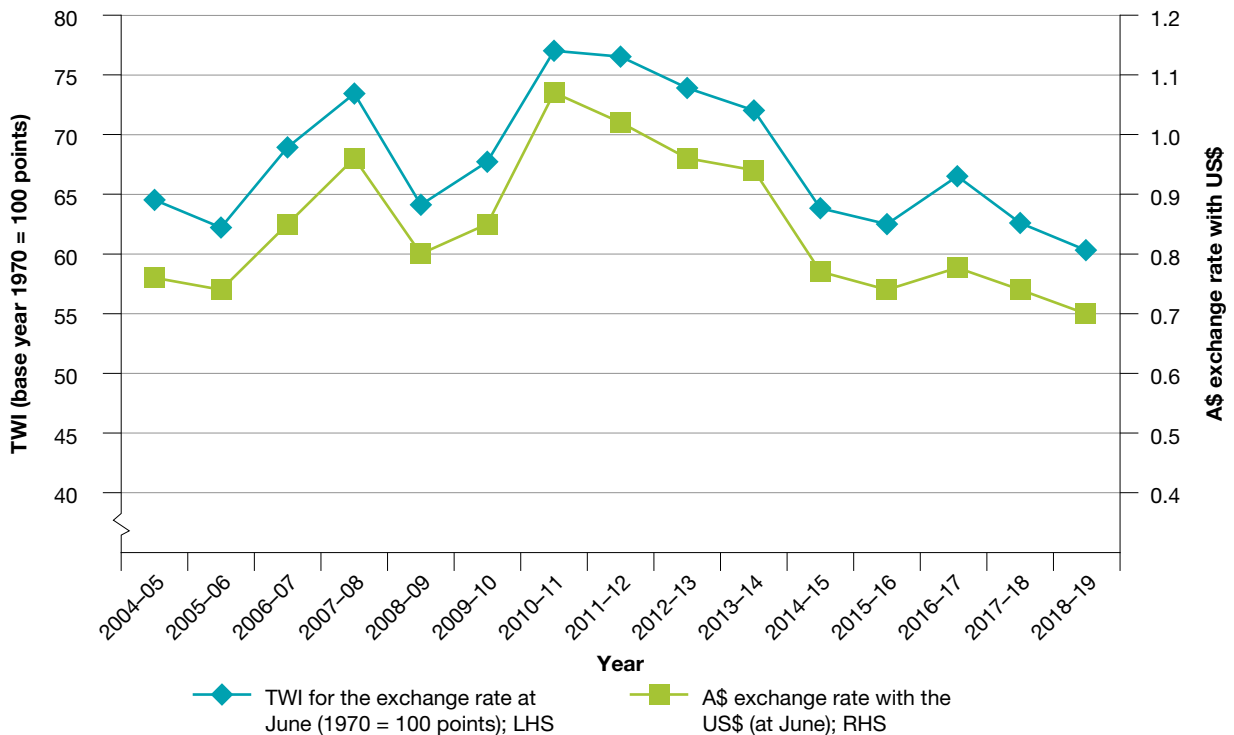


2. *Trade weighted index (TWI)*. The **trade weighted index (TWI)** represents the average exchange rate for a basket of foreign currencies weighted according to their relative importance for Australia's trade (e.g. the US dollar is weighted more heavily than the Indonesian rupiah). Because the TWI is an index, a base year (equal to 100 points as at May 1970) is used to compare changes in the currency's value in subsequent years. A rise in the TWI between one year and the next means that the Australian dollar has appreciated against most of the other currencies in the basket, while a fall in the TWI means there has been a general depreciation.

3.6.2 Recent trends in Australia's exchange rate

Figure 3.22 shows that over the past decade, the exchange rate for the Australian dollar has moved cyclically. Peaks in 2007–08 and 2012–13 were followed by troughs in 2008–09, and 2016–17–18–19.

FIGURE 3.22 Trends in Australia's exchange rate indicated by the TWI and US dollar



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3.6.3 Causes of changes in Australia's exchange rate

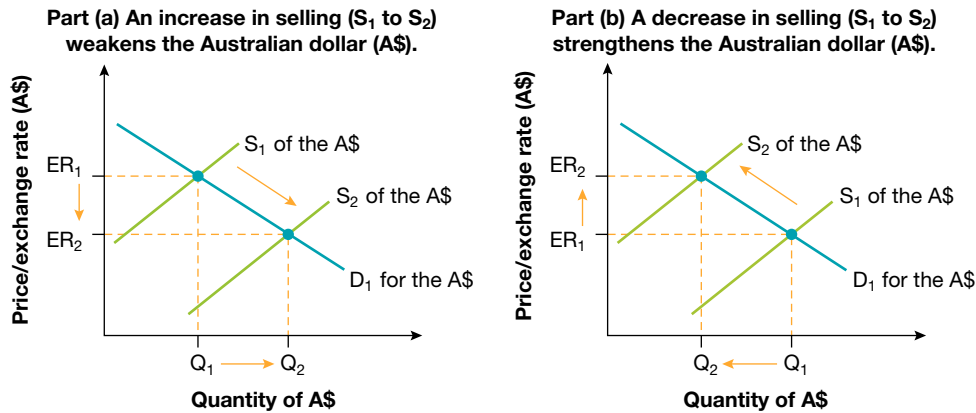
Rises and falls in the exchange rate come down to changing aggregate demand- and supply-side conditions here and abroad. These influence the level of purchases (D) and sales (S) of the Australian dollar in the foreign exchange market.

Factors affecting the sale or supply (S) of the Australian dollar

When Australian residents purchase imports of goods or services, make income payments or invest overseas, they must *sell* their Australian dollars (A\$) to buy another currency. Figure 3.23 shows what happens in the foreign exchange market when sales of the A\$ rise or fall.

- If sales of the A\$ *rise* (S_1 to S_2 in part a) and exceed the demand for the currency at the original price or exchange rate (ER_1), there will be a **depreciation** of the exchange rate (to ER_2).
- However, in reverse, when sales of the A\$ *fall* (S_1 to S_2 in part b) relative to the demand for the A\$ at the original price or exchange rate (ER_1), there will be an **appreciation** of the currency (to ER_2).

FIGURE 3.23 Changes in sales of the Australian dollar affect the exchange rate in the foreign exchange market.



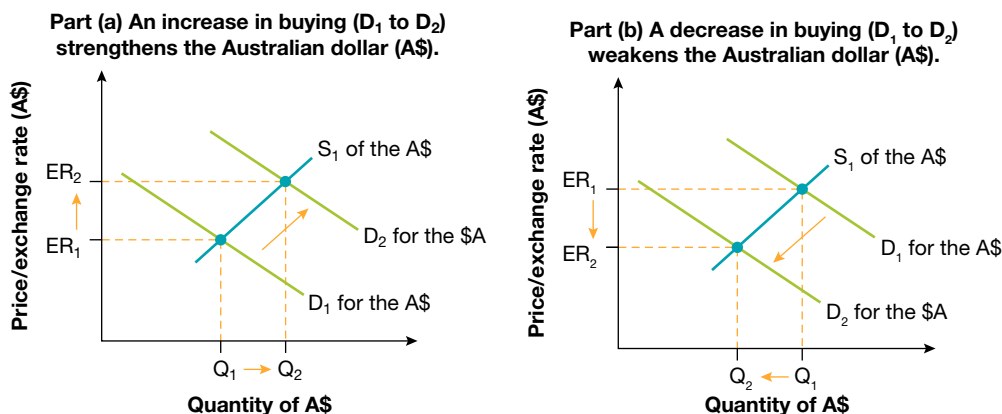
The number of dollars sold or *supplied* (S) in the foreign exchange market (e.g. to pay for imports of goods and services, and incomes abroad) is affected by changes in the following factors:

- local consumer confidence
- local business confidence
- changes in our tax rates and disposable income
- movements in the terms of trade and the prices of imports
- levels of inflation, production costs and competitiveness, relative to those overseas
- levels of interest rates on loans and overdrafts, relative to those overseas
- changes in budget tax receipts, outlays and the overall outcome (equal to budget receipts minus outlays)
- population growth
- household savings ratio (the percentage of income not spent)
- speculation about future changes in the exchange rate.

Factors affecting the purchase or demand (D) for the Australian dollar

When people overseas want to purchase our exports, make income payments or invest in our assets, they must *sell* their currency and *buy* Australian dollars in the foreign exchange market. Figure 3.24 shows what happens in the foreign exchange market when *purchases* of the A\$ rise or fall.

FIGURE 3.24 Changes in purchases of the Australian dollar affect the exchange rate in the foreign exchange market.



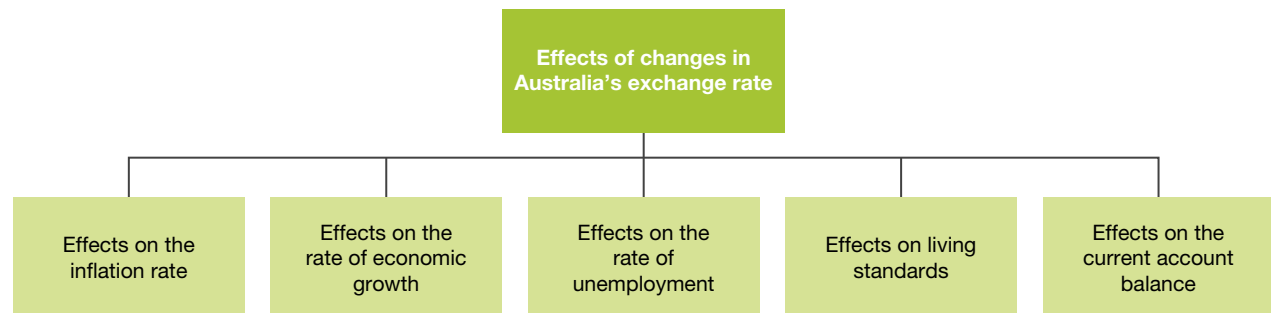
- If the *demand* for our currency *rises* relative to its supply of the A\$ (the shift from D_1 to D_2 shown in part a), the price of the dollar or exchange rate will *appreciate* (ER_1 to ER_2).
- If *fewer* A\$ are bought relative to the supply in the foreign exchange market (the shift from D_1 to D_2 shown in part b), the A\$ will *depreciate* (ER_1 to ER_2).

The number of dollars *bought* (D) in the foreign exchange market (e.g. when those overseas pay us for our exports and incomes) is affected by the following factors:

- the level of economic activity overseas in our major trading partners (e.g. China, Japan and the United States) and globally
- consumer confidence in our major trading partners and globally
- the terms of trade and changes in our export commodity prices
- changes in our productivity, international competitiveness and relative inflation rate
- speculation about future changes in the exchange rate
- our level of production costs and inflation rate, relative to other suppliers abroad
- the interest rate differential (gap) between Australia and other nations.

3.6.4 Effects of movements in Australia's exchange rate

Changes in the price of the A\$ in the foreign exchange market have powerful *effects* on our key domestic macroeconomic goals (low inflation, strong and sustainable economic growth, and full employment). In addition, the exchange rate can cause the size of the CAD to rise or fall. This is largely because the exchange rate can act as an *aggregate demand factor* affecting levels of net export spending ($X - M$) and economic activity, as well as an *aggregate supply factor* affecting our international competitiveness. Now let us look more closely at the effects of a changing exchange rate on Australia's three key domestic macroeconomic goals and living standards.



Effects of a change in the exchange rate on the rate of inflation

The RBA and the government try to pursue *the goal of low inflation* — keeping the inflation rate rising slowly at an average rate of 2–3 per cent annually over the cycle. Rises and falls in the exchange rate for the A\$ can affect the rate of demand inflation and/or cost inflation.

- *Demand inflation* can occur when there is excessive and strongly rising spending in an economy that has little or no unused productive capacity. Here, there will be boom conditions with widespread shortages of goods and services. As an *aggregate demand factor*, a falling A\$ can further stimulate the value of exports or injections (because they are more attractive abroad) while depressing imports or leakages (the value of leakages because they appear dearer to us). When the value of net exports ($X - M$) rises, and there is already low unemployment or unused productive capacity, stocks fall and firms cannot readily replace them, leading to widespread shortages and hence *demand* inflation. In reverse, when the A\$ appreciates, demand inflation slows. The higher dollar tends to reduce net exports, slow AD and cause unplanned rises in stocks, and thus widespread price discounting will slow *demand* inflation.
- *Cost inflation* occurs when production costs (such as wages, equipment and materials) rise, eroding business profits. As a result, firms are typically forced to pass on higher costs to consumers, so prices rise. As an *aggregate supply factor*, a falling A\$ can add to *cost* inflation because many local firms

need to purchase more expensive imported equipment and materials. In reverse, when the A\$ appreciates, costs for some local producers using imports become cheaper, allowing firms to cut prices to compete, easing *cost* inflation.

Effects of a change in the exchange rate on the rate of economic growth

The government generally seeks to promote the macro *goal of a strong and sustainable rate of economic growth* — keeping the GDP increasing at the fastest rate that is economically and environmentally sustainable — perhaps at around 3 per cent. Rises and falls in the exchange rate for the A\$ can influence economic growth by affecting the level of aggregate demand and/or aggregate supply.

- As an *aggregate demand factor*, changes in A\$ can alter AD by affecting the value of net export spending ($X - M$) and hence AD and the cyclical level of economic activity. A *weaker* A\$ (as occurred in 2016–17–18–19) will tend to *boost* overseas spending on our exports (increased injections), while slowing our spending on imports (lower leakages). As AD strengthens and stocks fall, firms will try to lift production, accelerating the rate of economic growth (assuming there is some unused capacity available). In reverse, a *stronger* A\$ will tend to *slow* net exports and weaken AD, causing stocks to rise and output to be cut.
- As an *aggregate supply factor*, changes in the A\$ can make conditions for local businesses either more or less favourable, thereby affecting productive capacity and the potential rate of economic growth. For instance, a *lower* A\$ will be less favourable for those firms importing materials and equipment since they face higher production costs and lower profits, possibly leading to business closures. Capacity could be reduced and the sustainable rate of growth slowed. However, these negatives might be partly offset, since a weaker exchange rate also makes some businesses more competitive at home and abroad leading to business expansion. In reverse, a *stronger* A\$ has mixed effects too. While this is good for firms importing materials and equipment because it reduces costs and stimulates growth, it also makes other local businesses that do not have to import materials and equipment less competitive, possibly leading to closures and a lower sustainable rate of economic growth.

Effects of a change in the exchange rate on employment and unemployment

A third domestic government macroeconomic objective is to promote the *goal of full employment* or the lowest unemployment rate that doesn't add to inflation. Changes in the exchange rate can affect rates of both cyclical and structural unemployment because the A\$ can act as an aggregate demand or an aggregate supply factor.

- As an *aggregate demand factor*, the exchange rate can affect the value of net exports ($X - M$) or injections, production, the demand for resources and unemployment. By boosting exports and slowing imports, a *weaker* A\$ helps to accelerate AD (as happened between 2016–19), causes firms to lift production and employ more labour, thereby decreasing *cyclical* unemployment. In reverse, a *rising* A\$ slows net exports and aggregate demand, and leads to firms cutting their output, adding to *cyclical* unemployment.
- As an *aggregate supply factor*, the A\$ can alter production costs and our international competitiveness. On the one hand, a *lower* A\$ means dearer imports and higher production costs for some (but not all) firms, reducing their profits and possibly leading to closures and *structural* unemployment. On the other hand, this problem may be partly offset by improved competitiveness for other local businesses due to a weaker dollar, leading to fewer closures and less *structural* unemployment.

Effects of a change in the exchange rate on the standard of living

The Australian government's *ultimate* economic goal is to improve society's general wellbeing and *living standards*. In general, this is easier when there is improved economic stability and all three domestic macroeconomic goals are achieved simultaneously.

A *lower exchange rate* can sometimes *help* to improve macroeconomic conditions and hence living standards. For instance, when there is unused productive capacity (e.g. 2018–19), a lower exchange rate can help boost the value of overseas spending on our exports (more injections) relative to our spending

on imports (lower leakages). Under these conditions, a rise in net exports lifts AD, causes firms to lift production thereby generating higher employment, incomes and purchasing power. This can increase material living standards (providing that incomes grow fast enough to offset higher inflation that is caused by the weaker dollar). A lower dollar can also help improve non-material living standards since with lower unemployment, overall, more people enjoy a better quality of life.

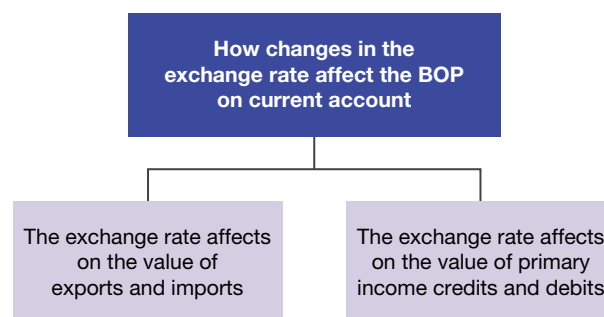
However, as mentioned, a *lower exchange rate* in an economy operating near its capacity, can cause a rise in both demand and cost inflation, reducing the real purchasing power of incomes and consumption. This erodes material living standards.

In reverse, a *higher exchange rate* can sometimes *benefit* living standards. For example, a rising exchange rate in a booming economy that has no unused capacity tends to slow overseas spending on our exports (lower injections) relative to our spending on imports (higher leakages). By curbing net exports and AD, this slows economic activity and demand inflation. It improves the purchasing power of incomes and hence material living standards.

However, a *higher exchange rate* in an economy with weak AD will cause slower economic growth, higher unemployment, lower average incomes and reduced purchasing power. This harms both material and non-material living standards.

Effects of a change in the exchange rate on the current account balance

Australia's current account records transactions between Australia and the rest of the world. These involve credits minus debits for goods and services, along with primary and secondary incomes. Australia typically runs a current account deficit (CAD). A rise or fall in the exchange rate for the A\$ can affect the size of our CAD in *two* main ways: through the value of exports and imports, and through the value of primary income credits and debits.



Value of exports and imports of goods and services

Changes in the exchange rate for the A\$ affect the cost, attractiveness and value of Australia's exports and imports of goods and services, thereby affecting the balance of payments on current account (and the size of the CAD).

- A *fall* in the A\$ makes Australia's exports of goods (minerals such as coal and iron ore, rural commodities such as wheat and beef) and services (tourism, education) relatively *cheaper* to overseas buyers in terms of their currency. As a result, the value of our export sales and credits typically *rise*, causing the CAD to *shrink*. In addition, a lower exchange rate often makes imports of goods (oil, cars, electrical appliances) and services (overseas travel) *dearer* in terms of our currency. This tends to *slow* purchases of imports, reduce debits and *decrease* the CAD.
- A *stronger* A\$ often leads to a larger CAD. Our exports of goods and services become *more expensive*, reducing the value of sales, while imports become cheaper, increasing purchases. As a result of increased debits relative to credits, the CAD tends to *increase*.

Value of primary income credits and debits

Changes in the exchange rate for the A\$ alter the cost or attractiveness of overseas *capital inflow* and *outflow* associated with buying and selling assets internationally. As a consequence, this can indirectly impact on *net primary incomes* and thus the balance on current account.

- A *fall* in the A\$ tends to make the purchase of shares and property, denominated in Australian dollars, *cheaper* and more attractive for non-residents. By increasing net capital inflow and foreign liabilities, this could ultimately *add* to *primary income debits* involving the payment of dividends, rent and profits abroad, and thus the CAD. Additionally, the weaker dollar could make it *dearer* and less attractive for

Australian investors to purchase foreign assets, at least those denominated in foreign currencies. In the longer term, this may indirectly tend to *slow* our *primary income credits* and add to our CAD.

- By contrast, a *stronger* A\$ can sometimes *encourage* capital outflow associated with the purchase of overseas assets by residents. These assets become relatively *cheaper* and more attractive if denominated in foreign currencies. In the long term, this could lead to *higher primary income credits* while discouraging foreign capital inflow and primary income debits. As a consequence, there could be a *reduction* in the CAD.

on Resources

-  **Weblinks** The relationship between the current account balance and exchange rates
- Foreign exchange (FOREX)
 - Foreign exchange practice
 - Exchange rate policy (devaluation)

3.6 ACTIVITIES

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Check your understanding

1. What is the exchange rate and how is it determined?
2. Identify and explain the factors that can affect a nation's exchange rate.
3. What are the main effects of a change in the exchange rate for the A\$?

Applied economic exercises

1. (a) Use a hypothetical diagram representing the *foreign exchange market* to explain how the exchange rate for the Australian dollar (A\$) is determined. **(2 marks)**
 (b) Using D–S diagrams to show the *before* and *after* situations in the foreign exchange market, explain what would happen to the exchange rate for the A\$ in each of the following:
 - i. there was increased buying of the A\$ **(1 mark)**
 - ii. there was increased selling of the A\$. **(1 mark)**
- (c) What does the trade weighted index or TWI measure? **(2 marks)**
- (d) Giving clear reasons, explain how each of the following events would be likely to affect the exchange rate for the A\$:
 - i. cuts in and low domestic interest rates, which occurred in 2011–19 **(2 marks)**
 - ii. overall slower economic activity overseas including China and Japan, as happened in 2013–19 **(2 marks)**
 - iii. relatively weak business and especially consumer optimism in Australia, as occurred in 2014–15–16–17 **(2 marks)**
 - iv. speculation of a future rise in the Australian dollar next week **(2 marks)**
 - v. a rise in our terms of trade index, as between 2016–17–18–19 **(2 marks)**
 - vi. a rise in interest rates in the United States relative to those in Australia, as occurred to 2016–17–18–19 **(2 marks)**
 - vii. a fall in RULCs in Australia, as happened in 2016–17–18–19 **(2 marks)**
 - viii. reduced foreign aid and a substantial cut in defence spending on new equipment, such as happened in 2014–18 **(2 marks)**
 - ix. a slower rate of inflation in Australia than in some overseas countries. **(2 marks)**
- (e) Explain how a *fall* in the exchange rate for the Australian dollar would be likely to affect each of the following variables:
 - i. size of the CAD **(2 marks)**
 - ii. rate of inflation **(2 marks)**
 - iii. rate of economic growth **(2 marks)**
 - iv. rate of unemployment **(2 marks)**
 - v. overall living standards. **(2 marks)**

3.7 Australia's international competitiveness

KEY CONCEPTS

- factors that may influence Australia's international competitiveness including productivity, production costs, availability of natural resources, exchange rates and relative rates of inflation, and the effect of these factors on domestic macroeconomic goals and living standards
- the effect of exchange rate movements on the current account balance, the domestic macroeconomic goals and living standards

Australia gains huge economic benefits from international trade. The federal government uses policies to encourage trade and make local firms more *internationally competitive*. This helps Australia to 'pay its way in international transactions' and 'live within its means', thereby promoting the Australian government's *goal of external stability*. In addition, being internationally competitive strengthens the goals associated with *domestic economic stability* (simultaneously achieving low inflation, strong and sustainable economic growth and full employment), ultimately improving Australian living standards.

3.7.1 Definition of international competitiveness

The Australian government wants local businesses to be internationally competitive. **International competitiveness** is often taken to mean that Australian businesses can profitably produce and sell their goods and services at a price equal or lower than that charged by foreign rivals. This enables them to expand their global sales and incomes, and improve our overall living standards.

However, more specifically, there are *two* considerations for local firms seeking to be internationally competitive against their foreign counterparts:

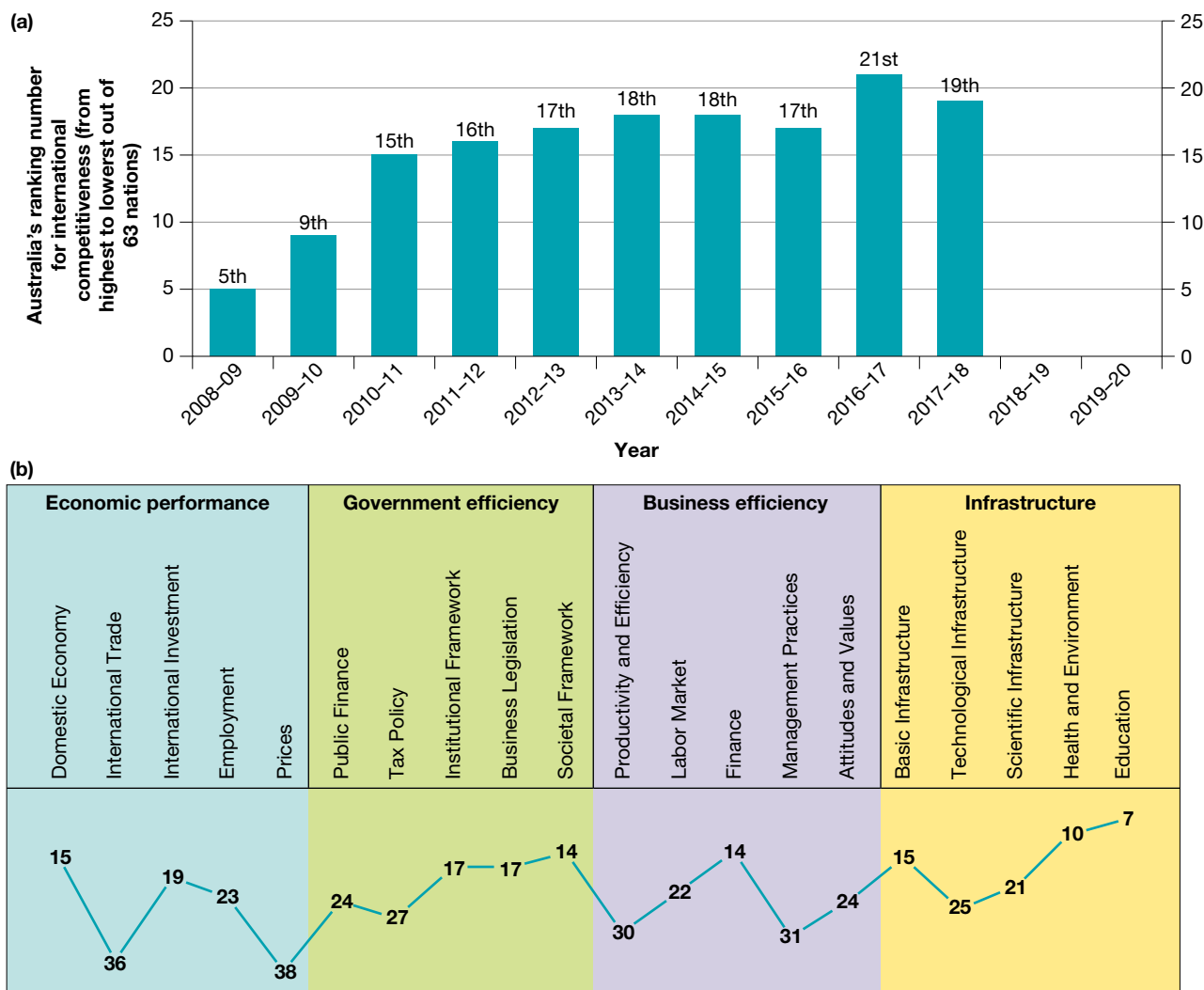
- **A competitive selling price.** The *final selling price* that buyers pay for goods and services is perhaps the main consideration. In making decisions, most consumers compare the local price against that for similar items made abroad. This means that firms need to focus on maximising efficiency in their use of resources so they can keep their production costs down.
- **Attractive non-price factors.** International competitiveness and consumer decisions are also influenced by *non-price factors*. These might include:
 - offering *better quality* goods or services that match or exceed those available abroad
 - catering for and satisfying the changing *needs of consumers* better than rival suppliers overseas
 - being innovative and coming up with new ideas and products to better satisfy people's wants
 - providing superior *customer service*, including prompt and courteous delivery.



3.7.2 Recent trends in Australia's international competitiveness

There are a number of measures of a nation's international competitiveness. The Committee for Economic Development of Australia (CEDA) uses twenty (20) indicators grouped into the four (4) areas of economic performance, government efficiency, business efficiency and infrastructure, to rank Australia against 63 countries. The overall results of this CEDA survey are shown in part (a) of figure 3.25.

FIGURE 3.25 Trends in Australia's international competitiveness (a) Trends in Australia's international competitiveness ranking (out of 63 countries — the lower the better); (b) Australia's ranking (out of 63 nations) on specific aspects of competitiveness



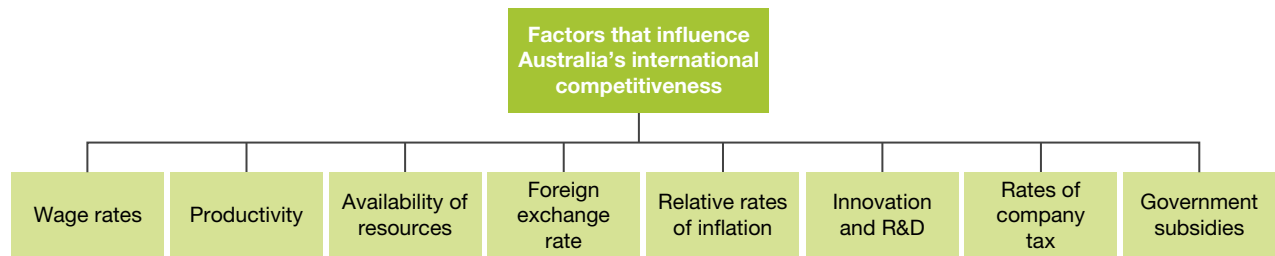
Source: Data for part (a) derived from CEDA. Part (b) © CEDA. Source: CEDA, Competitiveness trends overall.

Part (a) of figure 3.25 shows that Australia's position has slipped significantly from being the fifth most internationally competitive nation in 2008–09. However, it is encouraging that over the last two years, between 2016–17 and 2017–18, we have improved two places from twenty-first to nineteenth. Despite this recent progress, it is clear that Australia's international competitiveness position is quite weak.

Part (b) of figure 3.25 focuses more on the underlying factors affecting Australia's overall competitiveness ranking. While Australia performed well in education, health and environment, social framework and finance, our performance in most other indicators was fairly mediocre, including business productivity, the labour market, communications technology, government red tape and competence, tax policy and infrastructure (especially electricity supply and access to water).

3.7.3 Factors that may influence Australia's international competitiveness

Many factors determine whether Australian firms, and the economy generally, are internationally competitive.



Wage rates and other business costs affect competitiveness

The prices charged and international competitiveness of local firms are especially affected by how our *production costs* compare with those abroad. These costs might include

- *wages* and *labour on-costs* such as compulsory superannuation, leave entitlements and workers compensation
- the costs of *utilities* such as electricity, gas and water, as well as the costs of telecommunications and transport (road, rail, air)
- *interest rates* charged on firms borrowing bank credit to finance their expansion (the rate of interest on business overdrafts)
- the costs of purchasing *raw materials* and equipment.

If these costs overall are higher relative to those overseas, it is likely that local firms will not be internationally competitive. Businesses will have to sell their products at a higher and therefore less attractive price in local and foreign markets, leading to lower exports, higher imports and a bigger structural CAD.

Productivity affects our competitiveness

Productivity relates to efficiency or the level of output gained from a given quantity of inputs or resources used in production. **Labour productivity** is commonly measured by the level of GDP per hour worked, while **multifactor productivity** measures the efficiency with which the combined inputs of labour, capital and natural resources are converted into production.

Low productivity translates into higher production costs, and hence acts as a *less favourable aggregate supply factor*. It makes locally produced exports of goods and services less attractive to overseas buyers. This weakens our international competitiveness, adding to our structural CAD.

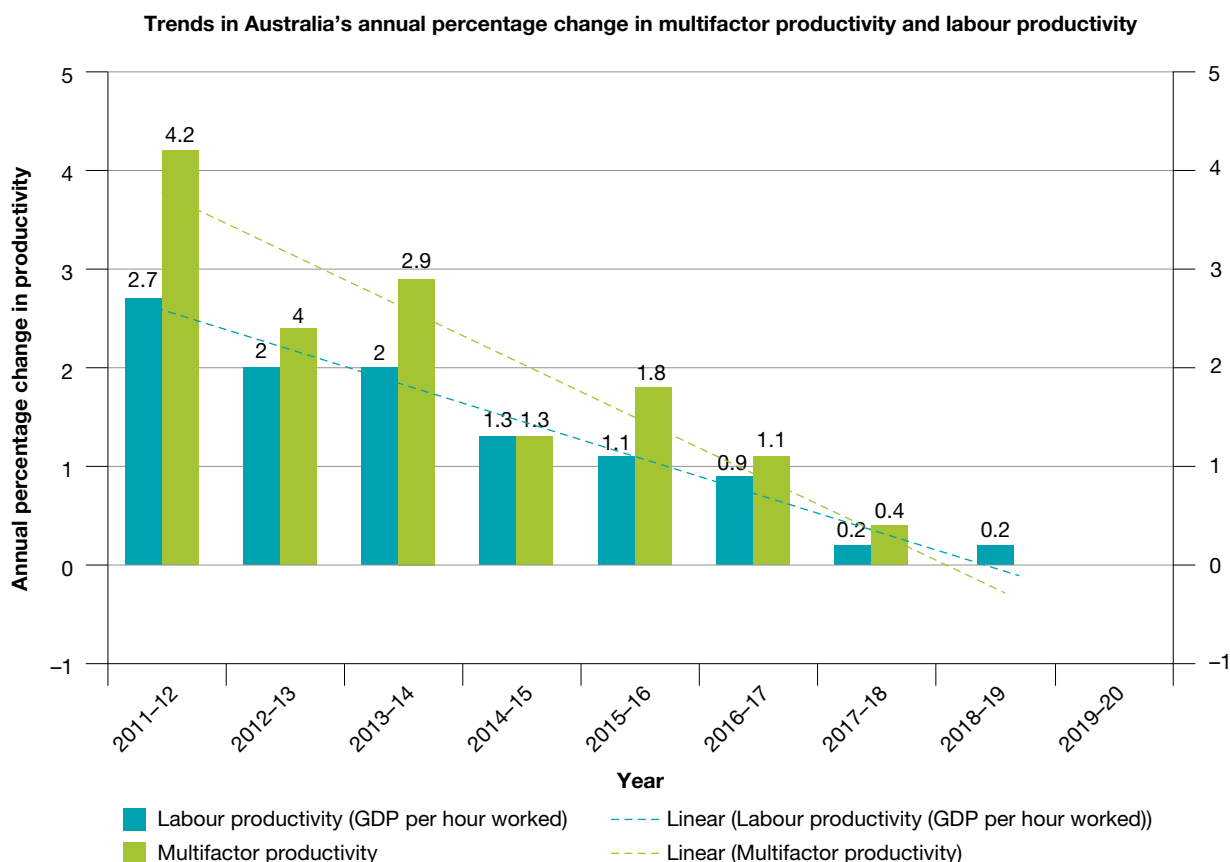
Figure 3.26 shows how Australia's labour and multifactor productivity have changed over the last eight years to 2018–19.

Figure 3.26 shows that both labour and multifactor productivity plunged dramatically between 2011–12 and 2017–18 (and 2018–19 for labour productivity). This put upward pressure on business costs and reduced Australia's international competitiveness.

There are a number of possible explanations for Australia's weak productivity growth that has undermined our international competitiveness:

- Productivity often moves in *cycles* and is difficult to measure, as it is hard to determine the exact origin of the change.
- Changes in productivity over time occur at irregular intervals across different areas. Industries where technological change and business restructuring have been rapid, record faster improvements in productivity and competitiveness.

FIGURE 3.26 Trends in Australia's labour and multifactor productivity



Source: © Australian Bureau of Statistics.

- In the case of agriculture, recent *severe weather events* and climate change have not helped productivity, along with the use of more marginal land. They mean that more inputs of resources are needed to gain the same output.
- During the *minerals boom*, there was heavy investment in capital resources, but the full production returns are only just being realised, some years later. In addition, the remaining natural resources are becoming more costly to extract since the easier ones have already been exploited (the low fruit has already been picked).
- In years past, rises in labour productivity may have been helped by the general increase in *unpaid overtime*. However, there are increasing limits to which this is a possible source of productivity.

FIGURE 3.27 Damage and destruction caused by a cyclone on a banana plantation in Western Australia.

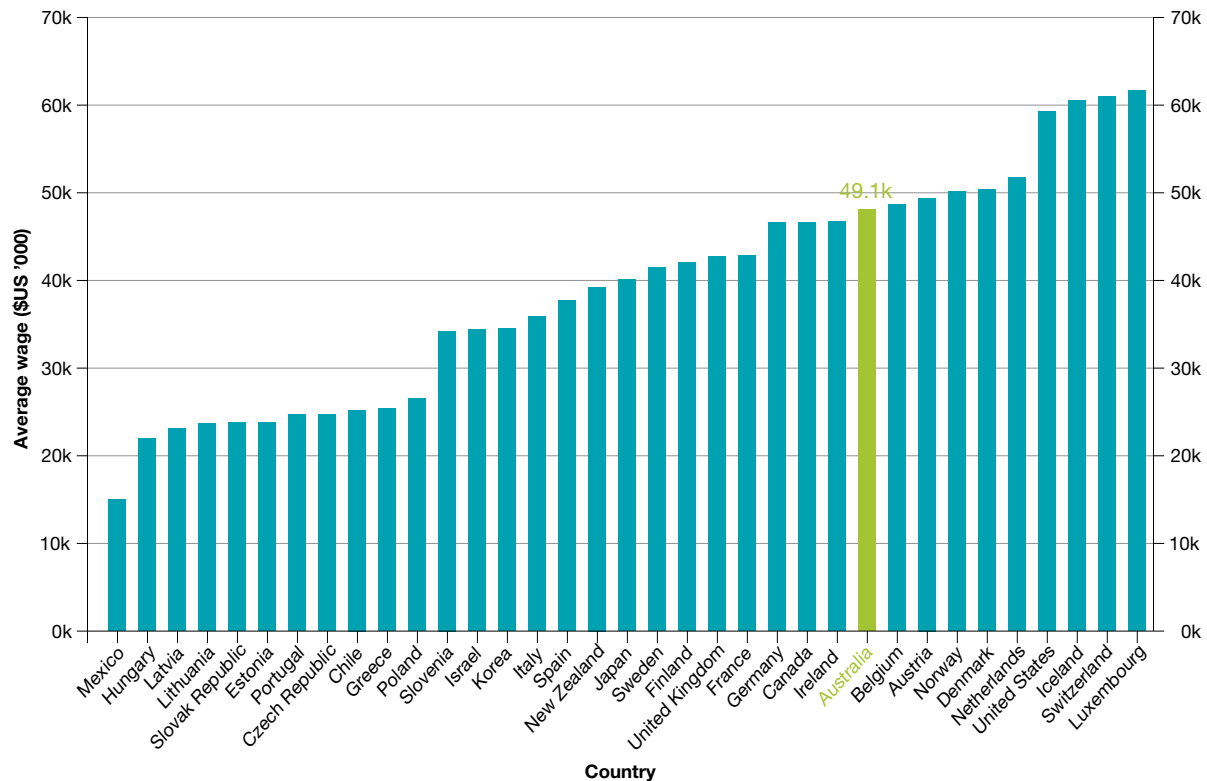


Wage and on-costs of labour affect our competitiveness

In many industries, *wages* represent 50–70 per cent of total production costs for firms. Being a high-wage country by international standards (especially after adding on hefty on-costs like the 9.5 per cent Superannuation Guarantee Levy), Australia is at a competitive disadvantage. Figure 3.28 compares our average annual wage with that in selected countries. Unfortunately, elevated wages cause local firms to charge higher prices for similar goods and services, than those from foreign rivals.

High wages would not be such a hindrance to competitiveness if Australian workers had better productivity, matching that of most other higher-wage countries (see countries shown on the right-hand side of figure 3.28).

FIGURE 3.28 Comparison of wages in selected countries (measured in US\$ '000)



Source: © Organisation for Economic Co-operation and Development. Source: OECD 2019, Average wages indicator. doi: 10.1787/cc3e1387-en Accessed on 17 May 2019.

Availability of natural resources affects our competitiveness

Australia is relatively rich in natural resources (coal, bauxite, iron ore, alumina) that are wanted by many nations, and we also have a relatively large area of productive land for grazing and agriculture. This means that mineral and rural commodities can often be produced at lower prices, often making us more internationally competitive in these areas.



The exchange rate affects our competitiveness

As we know, the exchange rate for the A\$ affects the price of exports and imports of goods and services.

- A generally lower exchange rate (as occurred between 2016 and 2019) allows Australian-made goods and services to be sold relatively cheaply. This usually helps to make local industry more competitive at home and abroad.
- In reverse, a higher A\$ (as occurred between 2011–12–13–14–15) makes our exports relatively dearer against imports, undermining our international competitiveness.

Relative inflation rates affect our competitiveness

Australia's inflation rate relative to those abroad affects the international attractiveness of locally-made goods and services.

- A relatively lower inflation rate here makes the price of our goods and services more attractive to buyers at home and abroad, making us more internationally competitive.
- In reverse, a relatively higher inflation rate here erodes our international competitiveness and sales.

Provision of efficient economic and social infrastructure affects our competitiveness

Having efficient *economic infrastructure* (e.g. roads, rail, airports electricity, gas, telecommunications and water) and social infrastructure (e.g. health, education and legal system) is a key to international competitiveness.

Regrettably, Australia has recently faced increasing *bottlenecks* or restrictions to their supply. Provision of electricity and gas is especially under threat. These shortages have led to rapidly rising costs of transport, gas, electricity and water, causing local businesses to raise their prices and protect profits, even though this reduces their international competitiveness. Some firms have been forced to close down or relocate overseas where costs are lower.

In addition, the problem of *skills shortages* has also been an obstacle for local firms, slowing their productivity and forcing some businesses to look overseas for suitably qualified staff (the entry of workers under the Temporary Skill Shortage (TSS) visas).



Rates of company tax affect our competitiveness

Company *tax rates* affect the *after-tax profits* of firms and hence the price they must charge to make reasonable returns. Over recent years, the Australian government has cut the rate of tax on business profits and in 2019–20, large firms pay 30 per cent, while small to medium-sized firms pay 27.5 per cent (with further reductions scheduled for 2020–21 to 26 per cent, falling to 25 per cent in 2021–22). Even so as shown in figure 3.29, our company tax rates are still generally higher than those among our trading competitors in Asia (China, Vietnam, India and Indonesia, where in 2019 the average tax rate was around 21 per cent) and in Europe (Italy, Germany and Ireland, where it was just 22 per cent).

FIGURE 3.29 International comparison of corporate tax rates (2019)



Source: © 2019 KPMG International Cooperative.

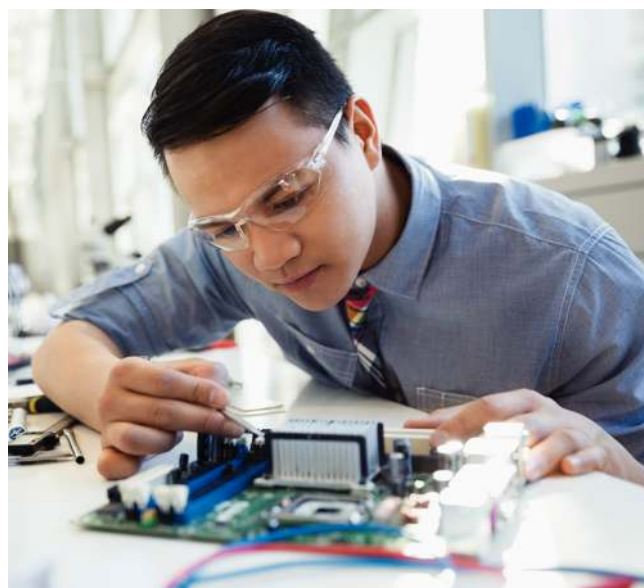
High tax rates also means that local firms cannot afford to purchase better, more efficient technology and equipment needed to improve their productivity. In these ways, higher corporate tax rates help to explain why local businesses need to charge higher prices than some businesses overseas, making them less internationally competitive.

Government subsidies can affect our competitiveness

The Australian government pays *cash subsidies* and provides tax incentives to local producers to help encourage structural change and cover some production costs. This allows businesses to sell their product at a lower price in both local and international markets. Sometimes the decision to pay subsidies is designed to correct market failure, but at other times, it could be to help support infant industries and win greater political popularity. Whatever the case, subsidies can make local firms more internationally competitive.

Level of innovation affects our competitiveness

Spending on *R&D and innovation* (the development of new products and different ways of making things, and adapting to the changing wants of consumers) can help give a nation a competitive edge and allow it to sell more strongly in both local and international markets. In contrast to some countries, Australian businesses spend less than 1.2 per cent of GDP on R&D (down from around 1.4 per cent over the last five years). Increased government *spending on education* is also needed to grow our creativity and innovation, but this too has risen more slowly in recent years. Australia is being overtaken by other countries in these areas, and this helps to explain our poor level of international competitiveness.



on Resources



Weblinks What is competitiveness?

Global Competitiveness Report 2017–18

3.7.4 The effects of international competitiveness

Australia's relatively *poor* level of *international competitiveness* represents a *less favourable aggregate supply factor* that has adversely impacted on the achievement of Australia's key domestic macroeconomic goals and, thereby, diminished our living standards.

The effects of competitiveness on the achievement of Australia's domestic macroeconomic goals

The Australian government tries to pursue *three* key *domestic macroeconomic goals* — a strong and sustainable rate of economic growth, low inflation and full employment. Australia's currently *weak international competitiveness* has made these objectives harder to achieve.

- i. *The effect of international competitiveness on prices and inflation.* Part of our weak competitiveness is that it causes our production costs and prices to be higher than in some other countries. Firms pass on these extra costs as higher prices for the goods and services we purchase. This reduces the purchasing power of our incomes.

- ii. *The effect of international competitiveness on the rate of economic growth.* Being less competitive than some nations makes it harder for local firms to sell their goods and services at home or in export markets overseas. With lower sales and profits, many firms are less willing and able to expand their capacity, in turn limiting the growth in Australia's productive capacity, potential GDP and incomes. In addition, international investors and businesses are less likely to be attracted by our weaker competitive environment, again slowing business expansion and economic growth.
- iii. *The effect of international competitiveness on unemployment.* Because many Australian businesses are not strongly competitive, they have higher costs and lower profits than their counterparts abroad. This means that some firms will close down or relocate overseas where aggregate supply conditions are more favourable. This raises the level of structural unemployment.

The effects of competitiveness on Australia's living standards

Understanding that Australia's *weak* international competitiveness has tended to undermine the achievement of Australia's three domestic macroeconomic goals, means we can appreciate that it may also have *diminished* our living standards in two ways.

- i. *The effect on material living standards.* Because Australia is less competitive than some nations, this has tended to slow the growth of business capacity, GDP and incomes. In turn, we would expect this to reduce the average 'quantity' of goods and services consumed per person, and hence material living standards. Also, by adding to structural unemployment, this also lowers average incomes and purchasing power.
- ii. *The effect on non-material living standards.* Australia's environmental outcomes may benefit from our relatively poor competitiveness. This is because a slower pace of economic growth should tend to reduce carbon emissions, pollution, resource depletion and negative externalities paid by third parties that impact on 'quality' of life. In addition, our current lack of competitiveness has caused some firms to close or relocate abroad, causing the loss of jobs and structural unemployment. Unemployment usually has very negative effects on non-material living standards by contributing to reduced mental and physical health outcomes, increased financial and other stress, feelings of social isolation and failure, unhappiness, and according to some research, possibly even higher crime rates.

3.7 ACTIVITIES

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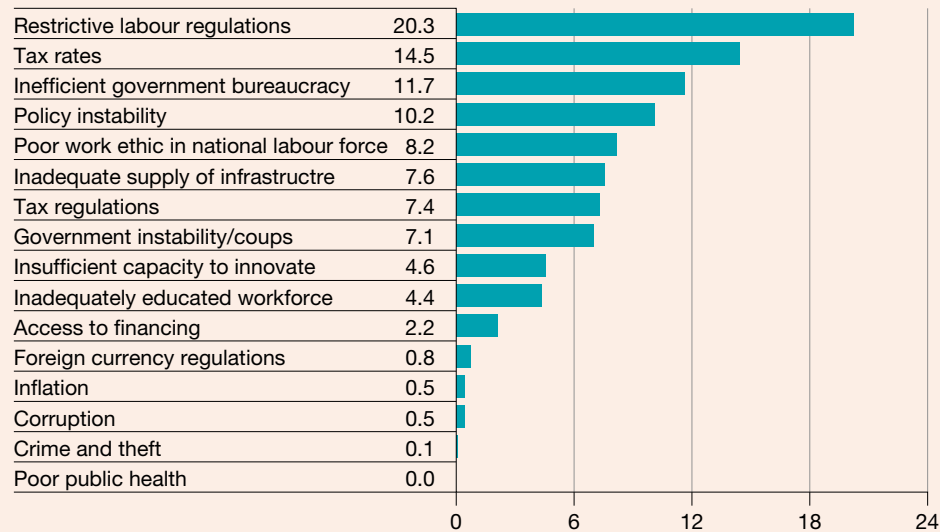
Check your understanding

1. Define the term international competitiveness.
2. List and explain the main factors that might determine a nation's international competitiveness.
3. How might Australia's current poor level of international competitiveness impact the Australian economy?

Applied economic exercises

1. (a) Identify and outline *four* important factors that have recently reduced Australia's international competitiveness. **(4 marks)**
- (b) Examine figure 3.30 showing the main problematic areas (scored from highest to lowest concern) of doing business in Australia, according to a survey of business executives. It shows areas that are obstacles to our competitiveness.
 - i. According to the graph, what are the six areas of competitiveness that were seen as presenting the greatest *problem* for Australia? **(1 mark)**
 - ii. According to the graph, what are the four areas of least concern? **(1 mark)**

FIGURE 3.30 Aspects of the Australian economy that are considered problematic for businesses

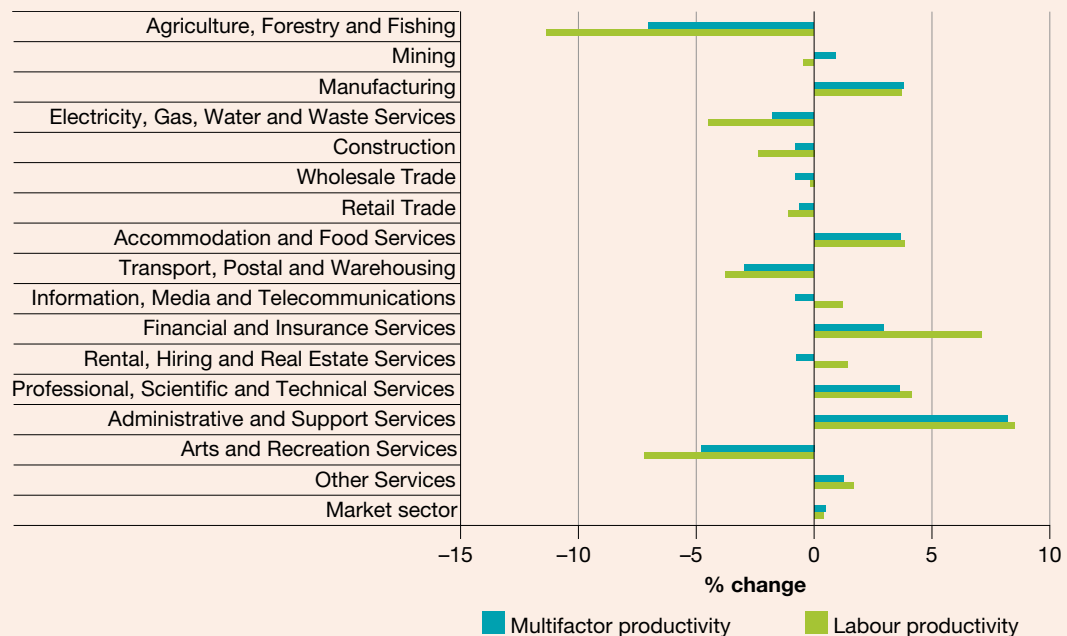


Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Source: The Global Competitiveness Report, 2017-18, Country profiles, World Economic Forum.

(c) Examine figure 3.31 showing changes in Australia's multifactor productivity by industry.

FIGURE 3.31 Changes in Australia's labour and multifactor productivity by industry



Source: ABS, 5260.0.55.002, Estimates of Industry Multifactor Productivity.

- Distinguish multifactor productivity and labour productivity. (2 marks)
- According to figure 3.31, which Australian industries have been the least successful in raising both labour and multifactor productivity? (2 marks)
- Explain how *weak* productivity in some industries is likely to impact on unemployment and purchasing power. (2 marks)

- (d) In what ways might successful measures that increase Australia's international competitiveness be likely to affect our general living standards? (4 marks)

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3.8 The nature and effects of the Australian government's policy of trade liberalisation

KEY CONCEPT

- the effect of trade liberalisation on Australia's international competitiveness, domestic macroeconomic goals and living standards

Trade liberalisation as an aggregate supply policy can help grow *efficiency* in several ways. For example, reduced protectionism encourages greater specialisation in areas of production where our comparative cost advantage is greatest or where the disadvantage is least. It also grows the size of markets allowing competitive firms to gain economies of large-scale production, and increased levels of competition in local markets means that firms must cut their costs to survive. In the long term, greater efficiency should help boost productive capacity, raise national output, employment and real incomes, and help grow Australia's living standards.

FIGURE 3.32 Most economists believe that *trade liberalisation* (i.e. the gradual reduction in the level of government protection of local industry from import competition), helps to increase efficiency in Australia's use or allocation of resources. Greater efficiency is a good thing because more output can be gained from each input or unit of resources.



3.8.1 The Australian government's policy of trade liberalisation

Like most governments around the world, especially since the 1990s, the Australian government has gradually adopted the policy of *trade liberalisation*. Essentially, *trade liberalisation involves progressively reducing the various forms of protection of local industry*.

This approach differs from the policy of *free trade*, which is the *complete removal* of all forms of government industry protection. The key policy elements involved in Australia's policy of trade liberalisation are summarised in figure 3.33.

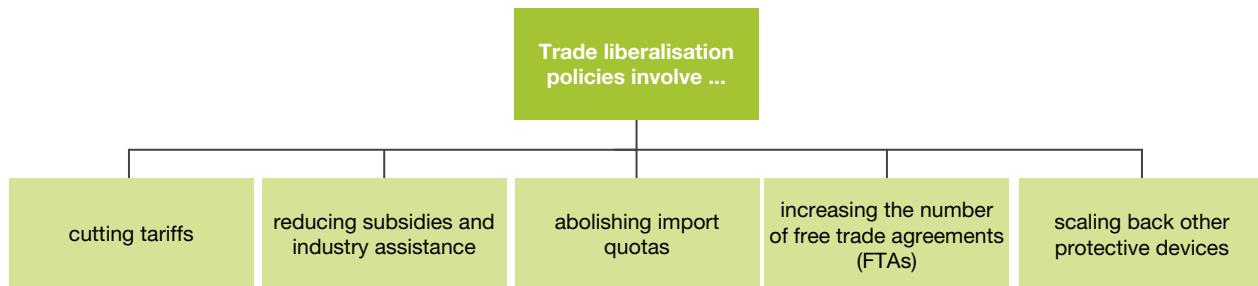
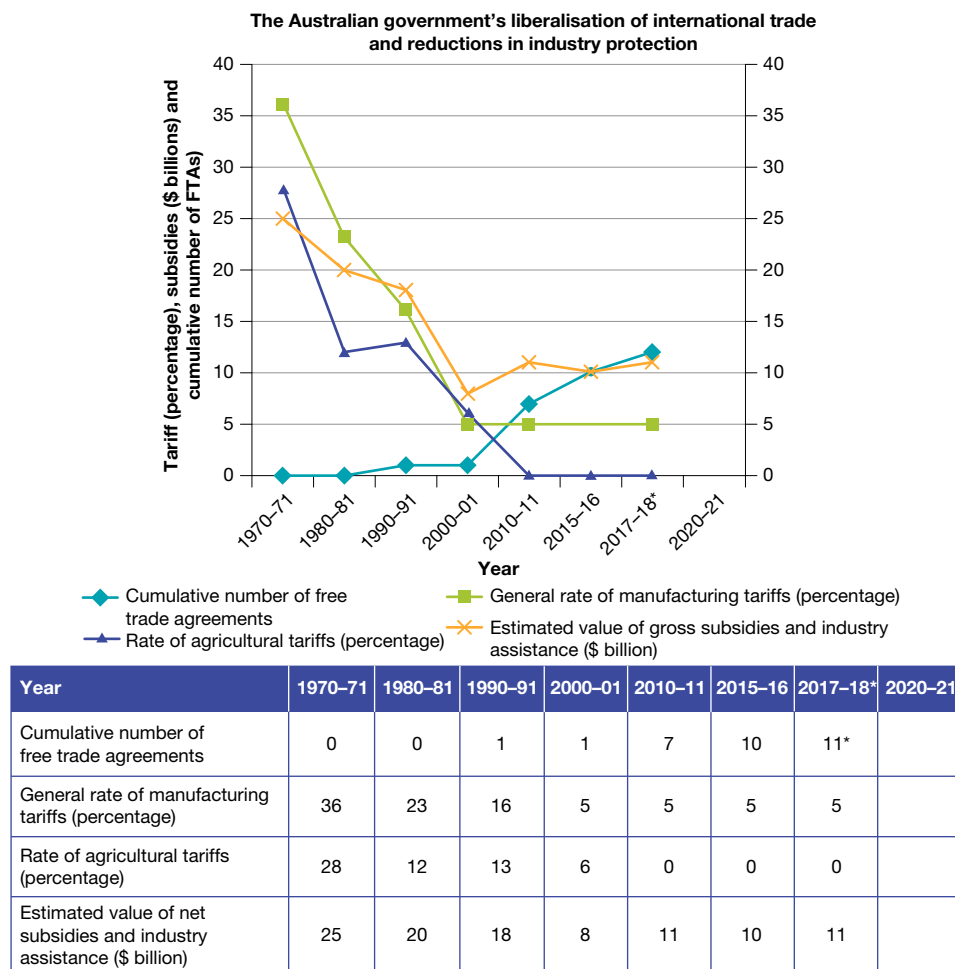


FIGURE 3.33 Indicators of the Australian government's adoption of trade liberalisation measures, 1970–71 to 2017–18



Note: Data for 2017–18 represents a preliminary estimate only for the value of subsidies. In addition, while there were 11 FTAs in operation by early 2019, another four have been concluded, awaiting final parliamentary ratification.

Source: Data derived from many sources including AGPS; Industry Commission; 2002 Trade Policy Review for Australia; Productivity Commission, Trade and Assistance Review 2015; DFAT; Budget Review 2006–07; and budget papers 2008–09 to 2019–20.

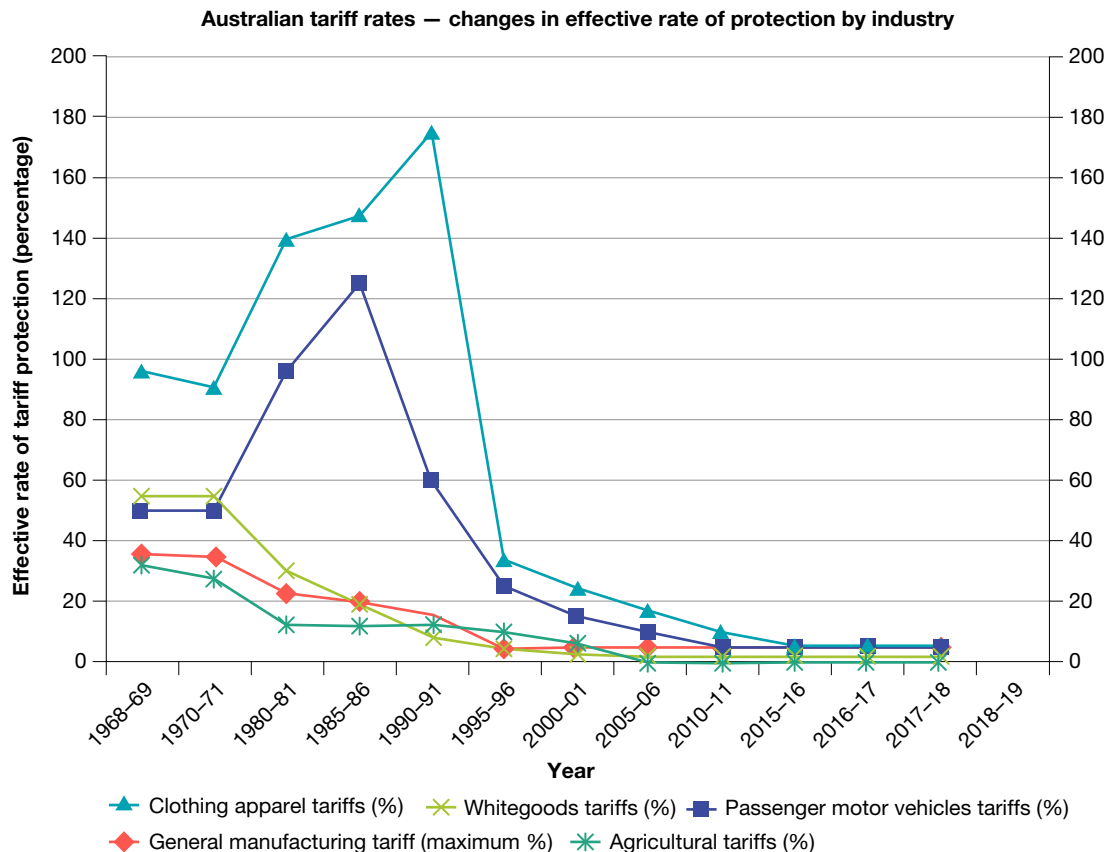
Let us find out more about the specific policy measures associated with the adoption of trade liberalisation by the Australian government.

Tariff cuts

Tariffs (also called import duties) represent an indirect tax levied on selected imported goods. In general, tariffs are added onto the price of imports to make them dearer or less attractive to local consumers. They limit foreign competition and restrict the supply of goods in local markets. Because of this, economists agree that high tariffs cause resources to be allocated inefficiently into industries where we have no comparative cost advantage. This type of protection weakens competition. It means that local firms can remain inefficient and uncompetitive and still survive, while local households and businesses must pay higher prices for these items, reducing living standards. These costs offset any gains from a possible increase in incomes and employment arising in the short term from having tariffs. Additionally, when one country raises its tariffs, this becomes a justification for other nations to retaliate and increase their protection. This reduces trade volumes, real incomes, consumption and living standards.

In contrast to high rates of tariff protection, a gradual reduction of protection, as implemented in Australia over the past 50 years, helps to improve allocative, technical and dynamic *efficiency*. Importantly, tariff cuts encourage local firms to become more internationally competitive by forcing them to cut costs and restructure production operations so as to become internationally competitive. In so doing, this helps to grow Australia's productive capacity, real incomes and living standards. Figure 3.34 shows how the levels of tariff protection of Australian industry have gradually been reduced.

FIGURE 3.34 Changes in tariff protection of Australian industry, 1968–69 to 2018–19



Source: Data derived from many sources including AGPS; Industry Commission; 2002 Trade Policy Review for Australia; Productivity Commission, Trade and Assistance Review 2015; DFAT; Budget Review 2006–07; and budget papers 2008–09 to 2018–19.

Using figure 3.34, notice how the following tariff rates applied to Australia's imports have been reduced over the years:

- *General tariff rate.* The general tariff rate on most manufactured items was cut from 36 per cent in 1968–69 to only around 5 per cent from 1995–96 onwards (where the tariff level has since remained).
- *Special tariff rates.* Tariffs applied to special industries such as agriculture, TC&F (textiles, clothing and footwear), kitchen whitegoods and passenger cars have all come down at varying rates. These industries initially enjoyed more protection and cutting them too quickly to 5 per cent would have meant certain collapse. From 2010, rates on cars came down to 5 per cent and TC&F to 10 per cent, while from 2015, tariffs for TC&F were reduced to 5 per cent.

Reduced net subsidies and other assistance to local producers

Subsidies are government cash payments made to local producers and industries designed to help them cover some of their production costs. In so doing, they can grow local industry and may help businesses compete internationally. Subsidies or industry assistance can come in many forms but most are normally financed through the government's annual budget outlays. After a peak of \$25 billion a year in 1970, overall *net subsidies* and budget assistance were generally reduced to an estimate of roughly \$11 billion by 2017–18. Lower subsidies are justified on the grounds that some subsidies damage efficiency in resource allocation and create costs that reduce overall living standards. Indeed, in times past, some Australian industries had become dependent on government protective handouts. They had not restructured their production to become internationally competitive.

Nevertheless, today, we still have some industry assistance in cases where there is market failure and various long-term benefits can be gained. Here we might think of the following schemes:

- *Export Development Grants (EMDG)* are managed through AUSTRADE. They seek to help firms cover up to 50 per cent of the costs involved with the promotion of their goods and services in foreign markets.
- There is a *Tax Incentive Scheme* for investment in R&D by smaller companies involved in innovation and the commercialisation of ideas for manufacturing and rural industry. It is designed to lift productivity and sales. This accounts for around a third of all budget assistance.
- The *Farm Household Allowance* provides financial assistance to those experiencing financial hardship to support measures to improve their long-term situation. This also includes concessional loans.
- The *Manufacturing Transition Program* provides finance for individual businesses moving into different areas of production.
- *Tasmanian Freight Equalisation Scheme* aims to reduce the transport cost disadvantage for businesses operating in that state.
- The *Automotive Transformation Scheme* provided help that was conditional upon car companies undertaking investment to upgrade plant, equipment and technology. Despite the exit of local car makers Toyota, Ford and Holden during 2017, this scheme has been retained to help firms in the automotive supply chain diversify and develop new markets.



If applied carefully and in moderation, there is sometimes a case for the limited use of subsidies. They can act as a microeconomic, aggregate supply measure that grows productive capacity and improves our international competitiveness.

Abolition of import quotas and licences

Import quotas are designed to restrict the supply or quantity of specific types of imports allowed into the country. They act to protect local businesses and limit foreign competition. In order to achieve a stated volume target, prospective importers must obtain a licence that gives them permission to bring in a certain maximum number of articles of a particular description.

Quotas were commonplace in Australia during the 1970s and early 1980s, especially on cars, textiles, footwear and clothing. However, with the adoption of trade liberalisation, these were progressively abolished. The last quotas, applying to cheese, were terminated in 2000–01. Clearly the government believes that, in the long term, their removal will increase efficiency in resource allocation, boost productive capacity and sustainable economic growth, slow cost inflation, improve international competitiveness and, ultimately, strengthen our living standards.

The increased role and number of free trade agreements

Australia has membership of various *multinational trading groups* (involving many countries) such as the World Trade Organization (WTO). Through the *Doha rounds* of trade negotiations with the WTO (so named because negotiations originally took place in Doha, the capital of Qatar), Australia has pushed hard for general reductions in global tariffs and the abolition of subsidies, along with increased access to agricultural, manufacturing and services markets internationally. Indeed, Australia was instrumental in setting up the Cairns group of fair agricultural traders bent on eliminating the agricultural subsidies commonly found in Europe, Japan and the United States. Despite these efforts, progress has been slow due to significant opposition from interest groups.

Given this slow pace of multilateral trade reform, Australia has increasingly negotiated *bilateral free trade agreements* (FTAs) with two or more individual countries. For example, by May 2019, we had 11 FTAs in operation:

- Australia–New Zealand FTA (also known as Closer Economic Relations) commenced in 1983
- Australia–Singapore FTA in 2005
- Australia–Thailand FTA in 2005
- Australia–United States FTA in 2005
- Australia–Chile FTA in 2007
- ASEAN–Australia–New Zealand FTA in 2009
- Malaysia–Australia FTA in 2012
- Korea–Australia FTA in 2014
- Australia–Japan FTA in 2014
- China–Australia FTA in 2015
- Trans-Pacific Partnership (TPP) in 2018.

The Trans-Pacific Partnership involved 11 countries (Australia, Japan, New Zealand, Canada, Mexico, Brunei, Chile, Malaysia, Peru, Singapore and Vietnam) negotiating to eliminate 98 per cent of tariffs on our agricultural exports. Originally, the United States was to be part of this agreement, but under President Donald Trump, it pulled out of the deal. Australia and, so far, at least six other nations have ratified this agreement that came into effect on 30 December 2018.

Furthermore, Australia has also concluded another *four* FTAs. These are expected to come into force soon following final parliamentary ratification. They include:

- The Indonesia–Australia Comprehensive Economic Partnership Agreement (March 2019)
- Australia–Hong Kong Free Trade Agreement
- Peru–Australia Free Trade Agreement
- Pacific Agreement on Closer Economic Relations (PACER) Plus

There are also negotiations well underway for striking new bilateral FTAs with Britain, Hong Kong and India, along with an Australia–Europe FTA.

Essentially, FTAs involve the removal of industry protection. This includes cutting tariff rates applied on trade between member countries, increasing access to services and easing restrictions on foreign investment.

In addition to exposing local firms to more intense foreign competition and forcing them to become more cost efficient and improve their international competitiveness, FTAs help Australian producers gain access to potentially huge export markets abroad. They can allow our businesses to expand GDP, gain economies of large-scale production, grow Australia's share of export sales and incomes, improve living standards and reduce our CAD.

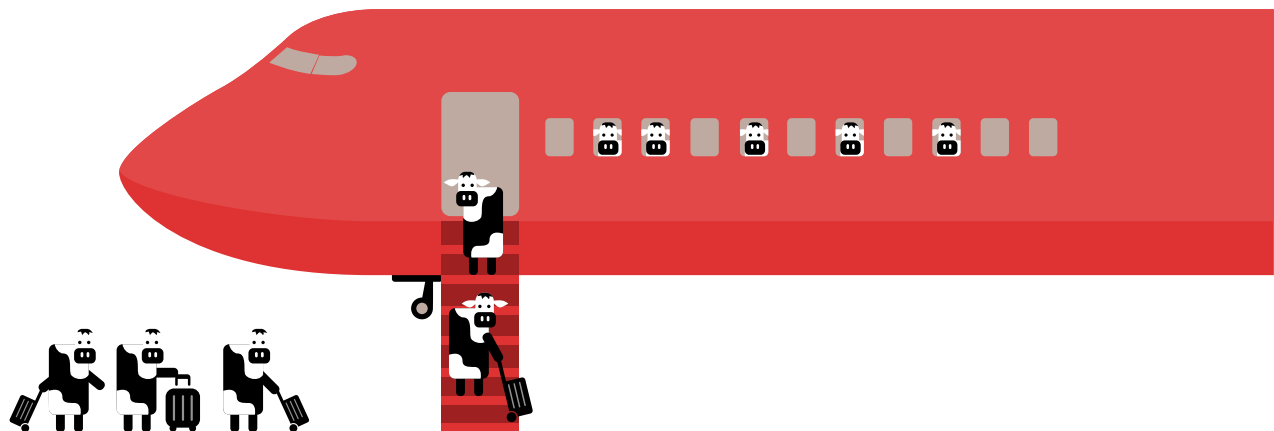
Trade liberalisation has also necessitated changes to other government policies

Trade liberalisation is regarded by economists as an important government *aggregate supply-side* policy designed to improve efficiency in the use of resources, and grow Australia's international competitiveness and living standards. Additionally, as a direct consequence of adopting trade liberalisation and greater openness, other productivity-promoting government reform policies also had to be undertaken. More specifically, these included the following:

- reforms involving more *deregulation of the labour market* to improve productivity and keep wage costs lower
- the development of a *national competition policy* where various levels of government implemented reforms designed to strengthen competition and efficiency of businesses
- taxation reforms, including the lowering of company and personal income tax rates and changes to the tax mix.

These and other measures sought to strengthen Australia's *international competitiveness*, *domestic economic stability* and general *wellbeing*. We will see that although trade liberalisation can sometimes have negative effects on some industries, particularly in the short term, the benefits normally become more apparent in the longer term.

FIGURE 3.35 'According to critics of agricultural protectionism, consumers and governments in rich countries have paid \$350 billion per year supporting agriculture — enough to fly their 41 million dairy cows first class around the world one and a half times.'



Source: World Trade Organization.

3.8.2 The effects of trade liberalisation on Australia's international competitiveness

As an *aggregate supply policy*, trade liberalisation (i.e. lowering the level of protection by cutting tariffs, reducing subsidies, abolishing import quotas and negotiating FTAs) has been under way for some decades now. As summarised in figure 3.36, the hope is that in theory, these policy measures should help to strengthen Australia's *international competitiveness* and living standards so that local firms can sell similar or better quality goods or services at prices equal to or below that of their foreign rivals.

FIGURE 3.36 The effects of trade liberalisation on local businesses



It is extremely difficult to measure the *effectiveness* of trade liberalisation on Australia's international competitiveness. For instance, we do not know exactly what would have occurred in the absence of this government policy.

However, one thing that we do know is that overall, Australia's international competitiveness ranking has plunged over the past decade. In 2008–09 one measure ranked our economy as fifth out of 63 nations, but by 2018, we had sunk to nineteenth place (see figure 3.25 in section 3.7.2). This might suggest that the government's trade liberalisation policies that exposed local firms to stronger competition have *not* been all that successful in strengthening our competitiveness (relative to the performance of some other countries that have done better).

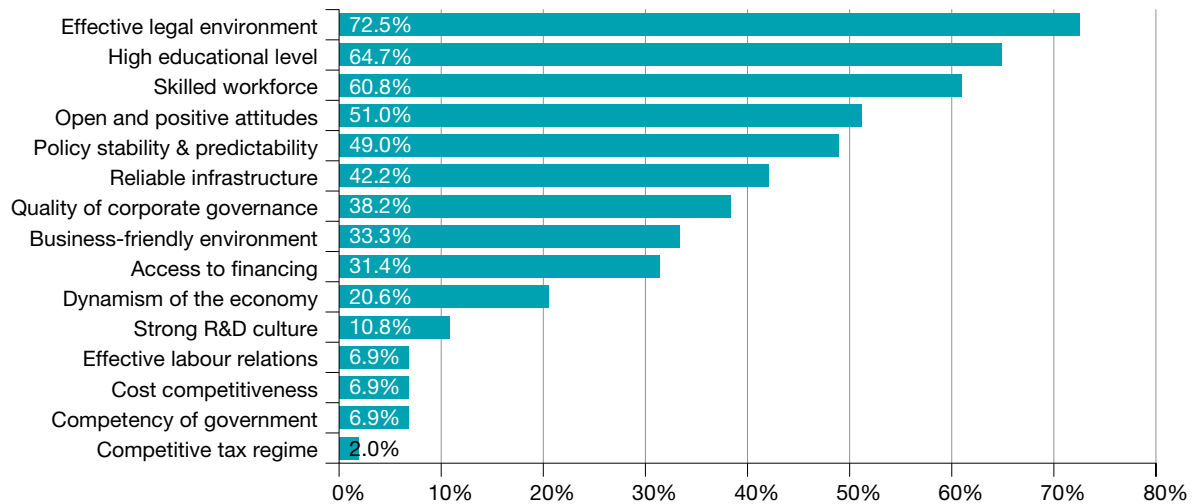
Despite this, as shown in figure 3.37, Australia was seen as doing quite well in some aspects of international competitiveness — areas such as our legal environment, education standards and work force skills. Nevertheless, overall, the executives surveyed gave Australia a rather poor report card on many of the 15 areas surveyed, especially our R&D culture, competitive company tax regime, competency of government, labour relations, dynamism and cost competitiveness.

In addition, figure 3.38 sheds further light on some other cost problems that are reducing Australia's competitiveness, relative to the United States.

These cost data show that Australia has a *competitive disadvantage* with the United States in all the selected areas including interest rates or the cost of business borrowing, the number of working days lost through industrial action such as strikes, the price of electricity, the minimum hourly pay rates and the level of labour productivity.

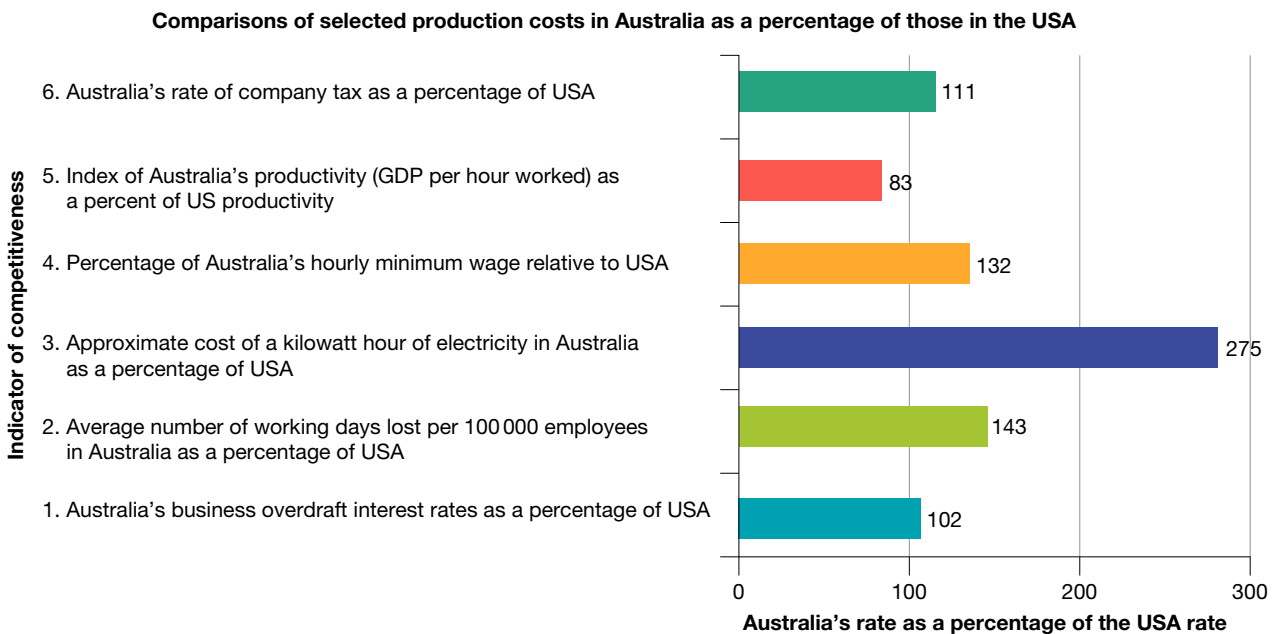
While Australia's international competitiveness has declined overall against that of some other countries, it is probably fair to say that without the progress made through liberalising international trade and strengthening competition and efficiency in our domestic markets, the situation would almost certainly have been much worse. It is also likely that other some countries have been more successful with measures designed to strengthen their international competitiveness, causing our rank to slip in relative terms.

FIGURE 3.37 How business executives ranked Australia's attractiveness on each of 15 measures



Source: c 2003-2015 CEDA . Source: CEDA, World Competitiveness Trends, 2018, Australia.

FIGURE 3.38 Some cost factors affecting Australia's international competitiveness compared with those in the United States



3.8.3 The effects of trade liberalisation on domestic macroeconomic goals

As an important government reform policy, it is likely that trade liberalisation has, in theory, helped to lift allocative, technical, dynamic and even intertemporal *efficiency*, grow Australia's productive capacity and increase AS. As a result, it should have had an impact on the achievement of the government's *three key domestic macroeconomic goals* of low inflation, strong and sustainable economic growth, and full employment.

Effect of trade liberalisation on the achievement of low inflation

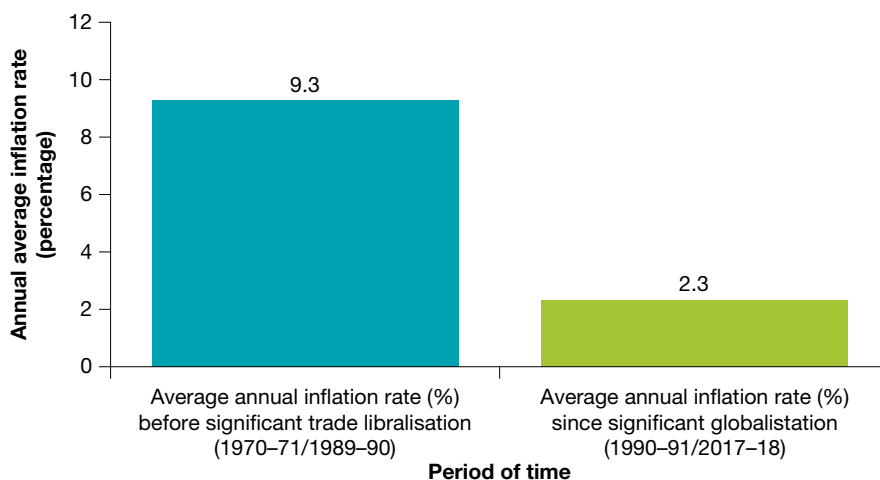
One important domestic macroeconomic objective of the RBA and the Australian government is the *goal of low inflation* (keeping the average rise in price around 2–3 per cent per year over the business cycle).

Trade liberalisation has almost certainly helped to slow Australia's inflation rate (especially cost inflation) in several ways:

- Trade liberalisation has caused resources to move into their most *efficient* use and out of areas of inefficiency and high costs. There has been an increase in allocative efficiency, slowing inflation.
- Trade liberalisation (especially FTAs) has grown our access to *larger markets* abroad, allowing local firms to gain economies of large-scale production and cutting average costs per unit.
- Trade liberalisation has allowed local firms to have *cheaper input costs* for equipment and raw materials accessed from overseas. Indeed, the Productivity Commission recently estimated that, despite huge reductions, tariffs still add over \$7 billion annually to costs for manufacturing and service businesses. Reducing tariffs should therefore slow inflation.
- Trade liberalisation has forced local firms to *restructure* their operations more efficiently, cut production costs and apply world's best practice. This has increased dynamic efficiency and helped to slow inflationary pressures.

Figure 3.39 shows that since the start of significant trade liberalisation from the early 1990s, Australia's average inflation rate has slowed dramatically to just 2.3 per cent over the last 29 years, compared with 9.3 per cent during the previous 20 years. While trade liberalisation was not the only possible cause (there were also other aggregate supply-side government policies that helped to slow inflation, such as the deregulation of the labour market), it is likely to have been an important contributing factor. In other words, cutting tariffs and subsidies, as well as signing more FTAs, have probably helped to promote the goal of low inflation. In turn, this has helped to increase the real *purchasing power* of incomes and raise material living standards.

FIGURE 3.39 The likely link between Australia's trade liberalisation and our lower inflation



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Source: RBA Statistics, Occasional Paper 8A; ABS 5206.0 Table 34.

Effect of trade liberalisation on the achievement of strong and sustainable economic growth

A second core macroeconomic objective of the federal government is to promote the *goal of strong and sustainable economic growth*. This is defined as the fastest average rate of growth in real GDP, around 3 per cent per year, that is consistent with achieving other economic and environmental goals.

Trade liberalisation might have helped to strengthen the *economically* sustainable rate of growth in several ways, particularly in the medium to longer term:

- Trade liberalisation leads to a greater *specialisation* in production and a more efficient allocation of resources involving lower opportunity costs. This means there is more output gained from the same or fewer inputs, thereby growing Australia's production possibility frontier or productive capacity. This increases the sustainable rate of GDP growth.

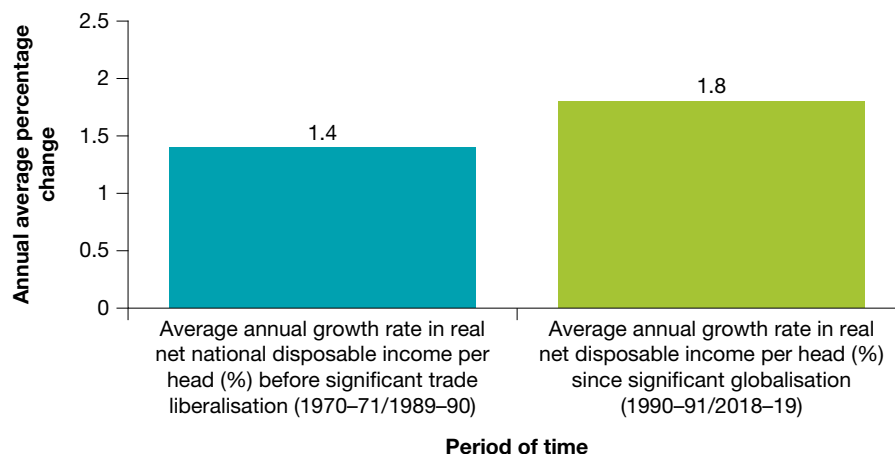
- With trade liberalisation, local businesses need to *restructure their operations* more efficiently to allow them to survive greater competition from imports. This allows for an increase in productive capacity and rate of economic growth.
- Trade liberalisation has allowed our local firms to access *better equipment*, materials and technology at a lower cost, creating the more favourable aggregate supply conditions needed to grow Australia's GDP at a faster rate.
- Trade liberalisation has grown the *size* of Australia's *export markets*, turbocharging sales and encouraging firms to boost production levels and GDP.

By increasing the growth rate of GDP, trade liberalisation has helped to boost national incomes faster. This helped to lift average real disposable income and consumption per head, and hence material living standards.

A comprehensive 2009 report concluded that trade liberalisation had delivered a rise in average family incomes over the two decades of around \$3900 per family per year by adding 1.8 per cent to real GDP (*Benefits of Trade and Trade Liberalisation* by DFAT and Centre for International Economics). Again, in the medium to long term, some of the rise in average real disposable incomes per head might be attributable to the Australian government's acceleration of trade liberalisation from the early 1990s.

Figure 3.40 seems to confirm that there has been a faster growth in real disposable income of 1.8 per cent per year on average in the 29 years to 2018–19 against 1.4 per cent growth in the 20 years to 1990, prior to significant liberalisation. However, this could be a coincidence rather than proof of a causal relationship.

FIGURE 3.40 The possible link between Australia's trade liberalisation and our faster growth in real net disposable income per head



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Source: RBA Statistics, Occasional Paper 8A; ABS 5206.0 Table 34.

Despite the benefits of economic growth in the medium to longer term, in the *shorter term*, trade liberalisation may actually slow economic growth. The main reason is that some local firms, unable to cut costs quickly enough and restructure, may have been forced to close. Here we might think of recent examples in the car industry, TC&F and low-end manufacturing. This would mean the loss of productive capacity, slower economic and income growth, and hence weaker living standards.

Effect of trade liberalisation on the achievement of full employment

The *goal of full employment* is a third domestic macroeconomic economic objective of the federal government. This is defined as the lowest rate of unemployment, perhaps around 4–5 per cent of the labour force, that does not greatly accelerate inflation.

It is surely remarkable that nearly 25 per cent of all Australian jobs are currently generated through international trade. Indeed, in mining this figure is nearly 70 per cent, with over 60 per cent in agriculture, 40 per cent in manufacturing and almost 10 per cent in service industries. It seems that trade is vital to creating employment opportunities and lowering unemployment.

Even so, what effect has the policy of trade liberalisation had on Australia's unemployment rate over the last few decades? This is a difficult question to answer. However, the impact does seem to depend on whether we consider the *short run* or the *long term* period of time. As a general rule, in the long run, it seems that trade liberalisation has created more jobs and employment, albeit sometimes in different industries, whereas in the shorter term, the effects can be severe for industries that cannot become internationally competitive fast enough and end up closing down or relocating overseas.

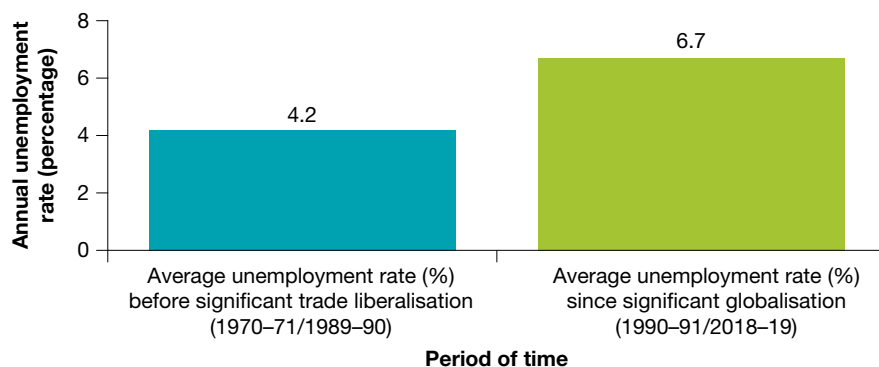
Starting with the *longer term*, trade liberalisation might have helped to create *more jobs* and better *material* and *non-material* living standards in several ways:

- By boosting *efficiency* and slowing domestic inflation, trade liberalisation may help to make local businesses more internationally competitive than otherwise, enabling them to increase their sales in domestic and foreign markets. This should lead to higher production levels and demand for resources including labour, keeping unemployment lower.
- Trade liberalisation, especially FTAs, create *bigger markets* abroad, allowing for increased sales and business expansion. This creates job vacancies and helps lower unemployment.
- Trade liberalisation allows local firms to reduce their average costs of equipment and materials, gaining *economies of large-scale*. This is a favourable aggregate supply factor that enhances business competitiveness and profitability, again reducing business closures and structural unemployment.

By creating more jobs and lowering unemployment in the long term, real incomes, *material* living standards and consumption should be higher. In addition, lower unemployment can support better *non-material* living standards including greater happiness, reduced social isolation, possibly less crime, improved physical and mental health outcomes, and less stress and family conflict.

However, having suggested that trade liberalisation *should* help to promote the goal of full employment in the long run, evidence of this appears rather thin. Indeed, average unemployment rates in the years since significant trade liberalisation have tended to be significantly higher (see figure 3.41). Again, while this trend may not be entirely the result of trade liberalisation measures, it is possible that these and other related government policies have contributed to the higher average rate of unemployment.

FIGURE 3.41 The possible link between Australia's trade liberalisation and our unemployment rate



Source: ABS 1350.0, 6202.0; RBA Statistics, Occasional Paper 8A Table 4.3.

In fact, one of the main criticisms of trade liberalisation in Australia and elsewhere, especially in the *shorter term*, is that it prevents the growth of infant industries, destroys others that are uncompetitive and causes higher levels of structural unemployment as seen in areas of manufacturing (e.g. the former car industry) during recent decades.

Other evidence of the effects of trade liberalisation on domestic economic goals

We will conclude this section about the effects of trade liberalisation on the domestic economy in both the short and long terms, by looking at some recent research. Economic modelling has recently been concluded showing the possible annual impacts of FTAs for the Australian economy predicted for 2016 to 2035. One

report looks at the results of Australia's three FTAs with Northern Asia (with China in 2015, and with Japan and South Korea in 2014). The results are summarised in table 3.5. Notice the expected significant additions to GDP, consumption and employment.

3.8.4 The effects of trade liberalisation on living standards

While mostly positive, trade liberalisation has had mixed effects on Australia's *material* and *non-material* living standards (see table 3.6):

- *Material living standards* reflect the real annual *quantity* of goods and services consumed per person. They are affected by the nation's GDP and incomes per head, the distribution of goods, services and incomes, and the extent to which society's wants are actually satisfied.
- *Non-material living standards* or the *quality* of daily life could be affected by many things, from personal happiness and free choice, to world peace, the existence of democracy, level of cultural enrichment and experiences, the absence of crime, and a clean and sustainable environment.

TABLE 3.5 The projected economic effects of Australia's three FTAs with North Asian economies (Japan, China and South Korea), 2016–35

	GDP (A\$m)	Real consumption (A\$m)	Real consumption per household ^a (A\$)	Employment (persons)
2016	1036	2886	312	7925
2035	2260	4630	370	5434
Net present value	24 362	46 260	4348	

^aPer household figures use ABS projected number of households (series II) in the relevant year (<http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/OAAC8BFAE9DD3241CA2568A90013942A?opendocument>).

Note: Present value calculations use a discount rate of 5%.

Source: © Department of Foreign Affairs & Trade.

TABLE 3.6 The positive and negative effects of trade liberalisation on living standards

Positive effects	Negative effects
Improved our economic wellbeing through: • greater efficiency in resource allocation and the growth of productive capacity • faster sustainable rates of economic growth • increased real per capita incomes and purchasing power • lower consumer prices • increased employment in the long term. Enhanced some aspects of non-economic wellbeing, perhaps through: • increasing consumer choice • improving cooperation and world peace • enhancing cultural enrichment, and providing more exciting and diverse experiences.	• Especially in the short term, trade liberalisation has led to higher <i>structural unemployment</i> in some uncompetitive industries that have relocated, restructured or closed down, and it may also have stifled the growth of infant industries that would have provided job opportunities had they been able to prosper. In turn, structural unemployment reduces average incomes and consumption. It also undermines aspects of non-material living standards including personal happiness, feelings of self-worth, health outcomes and family tensions, and potentially even increased crime rates. • Trade liberalisation, specialisation and global interdependence have probably exposed Australia to greater <i>economic instability</i> such as the fallout effects of the GFC (2008–09) where the collapse of international markets slowed our GDP, and caused unemployment to rise and incomes to fall. • By increasing production, trade liberalisation has accelerated the depletion of non-renewable natural and environmental resources. In turn, this, along with the increased transportation of goods around the world, has added to Australia's carbon emissions and accelerated climate change. This has eroded aspects of our material and non-material living standards.



Weblinks Video case study: Aaco Beef
 Video case study: Ausab
 Video case study: ACPET
 Video case study: Burch Family Wines
 Video case study: Burra Foods
 AUSTRADE: Benefits of trade and FTAs
 Export Council of Australia (ECA)
 Potential FTA with India
 AUSTRADE: Export Market Development Grants

3.8 ACTIVITIES

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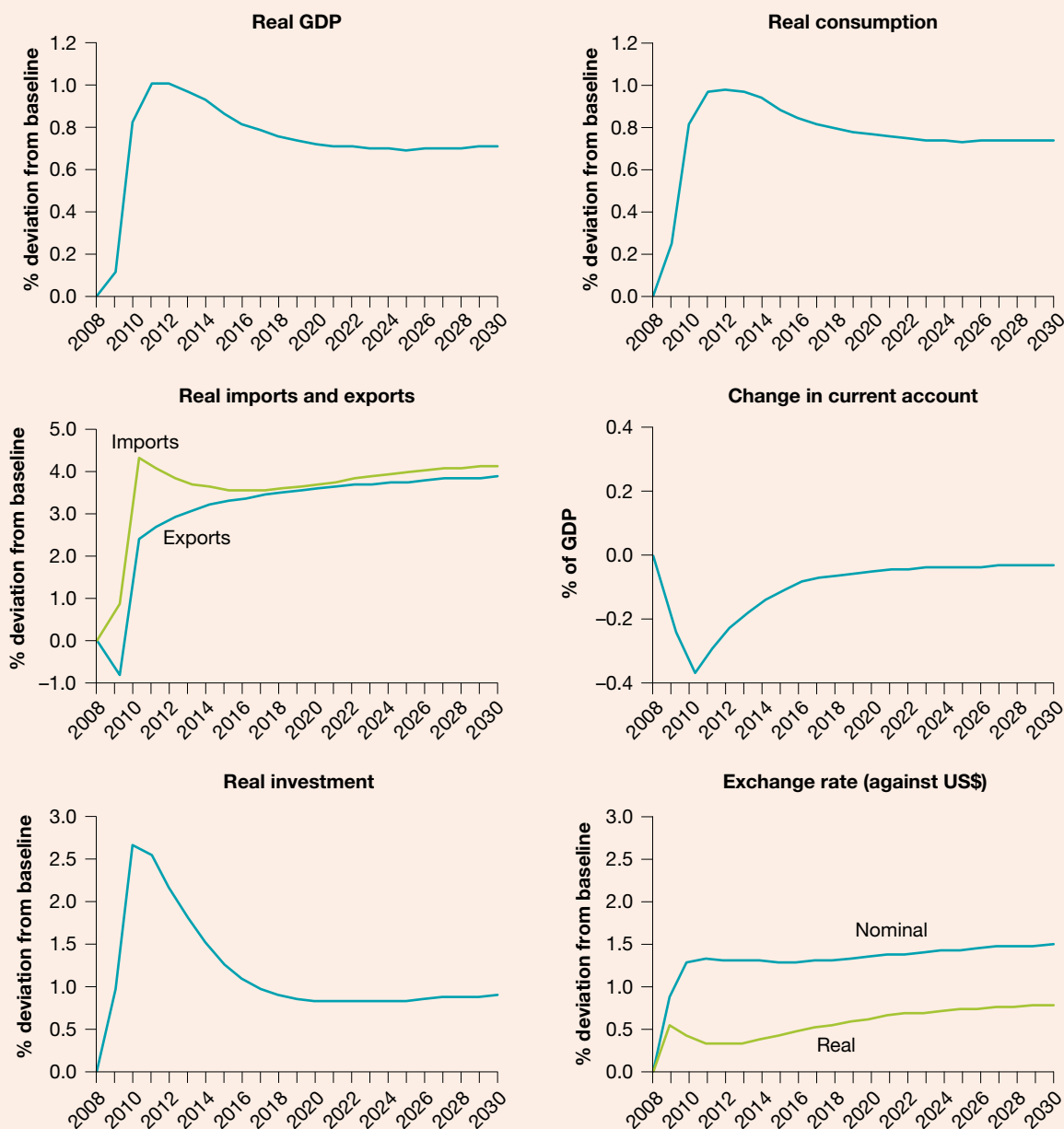
Check your understanding

1. What is trade liberalisation?
2. What are the main effects of trade liberalisation for Australia?

Applied economic exercises

1. Government *trade liberalisation* has gained pace in recent decades, especially since the 1990s.
 - (a) Detail the key features of Australia's policy of trade liberalisation. **(4 marks)**
 - (b) One aspect of trade liberalisation has been the rapid growth in the number of FTAs. What are bilateral FTAs and why are they potentially important for Australia? **(2 marks)**
 - (c) Explain how you would expect Australia's trade liberalisation to affect each of the following economic variables.
 - i. Australia's international competitiveness **(2 marks)**
 - ii. The inflation rate **(2 marks)**
 - iii. The rate of economic growth **(2 marks)**
 - iv. The unemployment rate **(2 marks)**
 - v. Living standards **(2 marks)**
 - (d) Most commentators agree that trade liberalisation by Australia has led to faster economic growth, higher disposable incomes, lower inflation and, possibly in the short term, higher structural unemployment. China is a country of over 1.3 billion people undergoing economic transformation. If it is not already, it will soon be the world's largest economy. Examine figure 3.42 showing macroeconomic data, generated through modelling, of the expected effects on our economy, of the China–Australia FTA (that was enacted in 2015).
 - i. According to this data, by how much is this FTA expected to boost our GDP from the baseline level? **(1 mark)**
 - ii. Explain the various ways whereby this FTA could accelerate Australia's rate of economic growth (GDP). **(4 marks)**
 - iii. Other things being equal, explain how you would expect this FTA to affect our unemployment rate in the short term and long term. **(2 marks)**
 - iv. Other things being equal, explain how you would expect this FTA to affect our incomes and material living standards. **(2 marks)**
 - v. Explain why economists generally believe that FTAs will reduce Australia's inflation, and thus raise our purchasing power and material living standards. **(3 marks)**

FIGURE 3.42 The expected economic effects of the China–Australia FTA



Source: © Australia China Business Council. Source: CIE 2008, Estimating the Impact of an Australia–China Trade and Investment.

- vi. Examine the table 3.7 showing China's estimated tariff rates for selected products. With the China–Australia FTA now in place, these tariffs have been reduced and some abolished. How would this be likely to affect the following:

(a) Australian farmers

(2 marks)

(b) Australia's BOP account?

(2 marks)

TABLE 3.7 Chinese tariff rates prior to our FTA

Product	Estimated tariff rate (percentage of price) imposed by China before the FTA
Wheat, corn and rice	1–10
Vegetable oils	9
Sugar	20
Wool	5.5
Cotton	26.6

Source: © Australia China Business Council. Source: CIE 2008, Estimating the Impact of an Australia–China Trade and Investment.

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3.9 Review

3.9.1 Summary

The relationship between international trade and living standards

- Australia's *international relationships* include international trade (involving the flow of exports and imports of goods and services), and capital flows (movements of money capital and investments between countries).
- Trade volumes have grown rapidly in recent decades due to trade liberalisation (reduced protection of local industry by cutting tariffs, subsidies, import quotas and signing FTAs).
- International trade generally *improves* a nation's material and non-material living standards by:
 - encouraging production specialisation in areas of comparative cost advantage
 - allowing the exploitation of economies of large-scale production by local firms
 - lowering consumer prices for goods and services
 - accelerating GDP growth
 - creating more jobs, employment and incomes
 - increasing access to resources
 - growing consumer choice
 - reducing global conflict
 - promoting cultural enrichment.
- However, international trade can bring some *problems* too:
 - possibly increased economic instability
 - cultural tensions
 - income inequality
 - prevention of the growth of infant industries.

Recording international transactions on the BOP account

- *Definition of the BOP account:* The BOP account records the various types of transactions between a country and the rest of the world over a period of time.
- *Structure of the BOP account:* The overall BOP account is made up of *two* main types of transactions, each with sub sections.
 - The balance of payments on *current account* records credits and debits for goods, services, primary incomes and secondary incomes.
 - The balance of payments on the *capital and financial account* records credits and debits for capital transactions, especially investments or the movements of money capital.

Relationship between the current account and the capital and financial accounts

- The BOP is a *zero balance* account where overall, the total value of credits *equals* the total value of debits.
- For Australia, theoretically, our CAD is exactly offset by a capital and financial account surplus involving a rise in our liabilities (debt and equity) abroad.

Overview of Australia's CAD and its causes

- *Definition of the CAD:* The CAD represents the excess of total debits over total credits on the BOP current account (made up of net goods, net services, net primary income and net secondary income). Australia runs a CAD.
- *Causes of the CAD:* The size of Australia's CAD is determined by both aggregate demand and aggregate supply conditions:
 - Stronger domestic aggregate demand conditions (due to locally stronger consumer and business confidence and rising disposable incomes), and weaker spending from abroad (due to a slowdown in economic activity or a drop in the TOT), usually lead to increased imports relative to decreased exports, and hence cause a bigger *cyclical* CAD.
 - Ongoing less favourable aggregate supply conditions can also add to the *structural* CAD (a large savings–investment gap, rising oil prices, drought, high production costs and poor international competitiveness).

The NFD and NFE

- *Definitions of the NFD and NFE:* The NFD represents the excess of what Australia owes the rest of the world against what the world owes us. It implies there will be interest payments as well as the repayment of the borrowed capital. Net foreign equity (NFE) is associated with foreign ownership of Australian assets (such as shares and property) minus our ownership of foreign assets.
- *Composition of the NFD:* There is both *official* (government sector) and *non-official* debt (private sector).
- *Causes of the NFD:* Various factors account for our large NFD. These include the rise in official debt (due to a large number of large governments budget deficits in recent years), the national savings–investment gap and relatively high domestic interest rates, plentiful natural resources, a skilled labour force and good economic infrastructure.
- *Effects of the NFD:* The NFD brings benefits (more finance for expansion, cheaper costs of borrowing) and costs (the burden of incomes repayments, and a bigger CAD).

The terms of trade

- *Definition and meaning of the terms of trade:* The TOT relates to the ratio of export prices Australia receives from overseas (we are mostly price takers), relative to the prices we pay for imports. A *fall* in the TOT means that Australia is trading under relatively less favourable conditions because we are receiving relatively lower prices against those we pay for imports. Here, a given quantity of exports will purchase a smaller quantity of imports, so we are not as well off.

- *Measurement of the terms of trade:* The TOT is measured by means of an index where the base year equals 100 points.

$$\text{The terms of trade index (TOT)} = \frac{\text{Export price index}}{\text{Import price index}} \times 100$$

- *Determinants of the terms of trade:* For Australia, our TOT is greatly affected by international commodity prices that in turn reflect the *global* conditions of demand (such as global economic activity) and *global* conditions of supply (such as climatic conditions and new discoveries) for the things we trade.
- *Effects of changes in the terms of trade:* Changes in the TOT affect the balance on current account and the exchange rate. For instance:
 - *The CAD:* A fall in the TOT involving the world paying lower export prices tends to cause a drop in the value of exports and/or a rise in the value of imports, leading to a rise in our CAD.
 - *The A\$:* A fall in the TOT tends to reduce the demand for the A\$ because of the likely decline in the price and value of exports, and/or an increase the supply of the A\$ because of the rise in the price and value of imports (less demand for the A\$ and/or more supply of the A\$ tends to weaken the exchange rate).

The exchange rate

- *Definition of the exchange rate:* The exchange rate is the price of an A\$ when swapped into other currencies in the foreign exchange market.
- *Measures of the exchange rate.* The TWI measures the *average* exchange rate, but there are also separate rates for every currency in the world. As the exchange rate *appreciates* or *depreciates*, it can have both good and bad effects on individual companies and the overall economy.
- *Determinants of the exchange rate.* Being a *floating* exchange rate, the price of the A\$ is determined by the forces of demand for the A\$ (as affected by international commodity prices and the terms of trade, overseas economic activity, our inflation rate) and the supply of the A\$ (as affected by our levels of imports, local confidence and economic activity, interest repayments on foreign debt) in the foreign exchange market at equilibrium.
- *Effects of changes in our exchange rate.* Changes in the A\$ have both good and bad effects for particular groups in our economy. The exchange rate can affect the cost/price and value of exports, the cost/price and value of imports, and the size of the CAD. It also affects the achievement of the Australian government's key domestic macroeconomic goals by affecting the levels of AD (via changes in X and M), the inflation rate, the rate of economic growth (GDP), and employment and unemployment rates.
 - An *appreciation* of the A\$ tends to reduce the value of exports/credits relative to imports/debits and increase the CAD. It also slows the growth in AD by reducing net injections. This tends to weaken economic activity, reducing inflation and economic growth, and causing a rise in unemployment.
 - A *depreciation* of the A\$ tends to increase the value of exports/credits relative to imports/debits, and decrease the CAD. It also stimulates AD and economic activity by increasing net injections, and so tends to accelerate inflation (if there is little unused productive capacity available) and economic growth while reducing unemployment.

Australia's international competitiveness

- *International competitiveness* mostly refers to the ability of a nation's businesses to successfully sell goods and services at an attractive price both here at home and also abroad.
- *Trends in Australia's international competitiveness:* Over the last ten years, Australia's international competitiveness ranking has decreased against various countries (although there was a small improvement during recent years to 2017–18).

- *Determinants of international competitiveness:* A nation's international competitiveness can be affected by many factors including:
 - the relative production costs (including wages) for businesses
 - productivity growth
 - the availability of natural resources
 - the exchange rate
 - relative rates of inflation
 - innovation and R&D
 - the relative rate of company tax
 - government subsidies to local producers.
- Some recent causes of Australia's poor international competitiveness:
 - low productivity
 - high wage and on-costs
 - infrastructure bottlenecks and skills shortages
 - high rates of company tax
 - severe weather events.

The nature and effects of the Australian government's policy of trade liberalisation

- *Definition of trade liberalisation:* Trade liberalisation involves the government policy of gradually reducing the level of protection of local industries. For Australia, trade liberalisation since the early 1970s, and especially since the early 1990s, has involved:
 - cutting all tariffs (the general rate is now 5 per cent or less)
 - reducing the overall value of government subsidies to local firms
 - abolishing import quotas
 - signing more bilateral FTAs (11 in operation by mid 2019).
- *Free trade* means no protection of local industry at all, and is the opposite of trade protectionism.
- *Effect of trade liberalisation on Australia's international competitiveness:* Trade liberalisation should help increase our international competitiveness by forcing businesses to use resources most efficiently in areas of comparative cost advantage. It also forces firms to restructure and cut production costs, and allows them to gain better economies of large-scale production by selling in bigger markets.
- *Effect of trade liberalisation on domestic macroeconomic goals:* It increases efficiency in the use of resources and promotes stiffer competition. As a result:
 - it can slow cost inflation pressures by helping to lift efficiency and lower production costs
 - it can strengthen economic growth through greater efficiency in the use of resources, restructuring production, growing access to overseas markets and sales, and increasing economies of large-scale production
 - in the long term, it can grow efficiency along with markets for goods and services, thereby expanding local businesses and creating more jobs (but structural unemployment may rise in the short term as some uncompetitive firms close down).
- *Positive effects of trade liberalisation on the standard of living:* Both material and non-material living standards can gain from trade liberalisation:
 - *Material* living standards can gain by raising efficiency, real per capita GDP, average incomes, purchasing power and consumption.
 - *Non-material* living standards can gain perhaps by lowering unemployment in the long-term, encouraging world peace and cooperation through mutually beneficial trade relationships, and culturally enriching our lives and experiences.
- *Negative effects of trade liberalisation:* However, trade liberalisation can present some problems for living standards. It may increase structural unemployment, especially in the short term, increase environmental problems including the depletion of resources, reduce the growth of infant industries, and possibly add to economic instability in countries.

3.9.2 Key terms

Absolute cost advantage occurs if a nation is the cheapest or most efficient producer of a single good or service in the world.

Appreciation of the exchange rate occurs when the value of a nation's currency rises against another currency.

Balance of payments account (BOP) An annual statistical record of Australia's financial transactions with the rest of the world. In turn, these transactions are divided into two main types of transactions — current transactions, and transactions involving the capital and financial accounts, each recording credit and debit transactions.

Balance on capital account is a subsection in the BOP capital and financial accounts. It records the total value of credits *minus* the total value of debits for capital transfers and other intangible assets.

Balance on current account is equal to the total value of all credits *minus* the value of all debits for goods, services, primary incomes and secondary incomes, measured over a period of time.

Balance on financial account is a subsection in the BOP capital and financial accounts. It mainly records international transactions involving the movement of money capital or investment, as well as the dealings of the Reserve Bank of Australia (RBA).

Comparative cost advantage occurs if a nation specialises in a few key areas of production where its cost advantages are greatest or its disadvantages and opportunity costs are lowest.

Current account deficit (CAD) is when the value of all current account debits *exceeds* the total value of all current account credits for goods, services, primary incomes and secondary incomes, measured over a period of time.

Cyclical CAD is the rise in the CAD that occurs when there is a rise in AD or spending as a result of strong aggregate demand-side conditions.

Depreciation of the exchange rate occurs when the value of a nation's currency falls against another currency.

Direct investment involves capital movements into and out of Australia that involve the establishment, purchase or expansion of companies and other assets.

Economies of large-scale production are reductions in a firm's average costs per unit associated with an increase in its production levels, perhaps enabled by trade liberalisation (e.g. the signing of FTA's).

Exchange rate The number of units of another currency that can be purchased with or swapped for one unit of our currency.

Foreign exchange market is where currencies are swapped or converted into other currencies.

Free trade agreements (FTAs) involve two or more nations agreeing to remove various forms of protection of their local industries. They are often seen as beneficial because countries will be inclined to specialise in areas of comparative cost advantage where opportunity costs are minimised and material living standards maximised.

Free trade involves abolishing protection of local industry by completely removing tariffs, subsidies and import quotas, thereby forcing local firms to become more internationally competitive.

Import quota A government restriction on the quantity of particular goods that can be imported.

International competitiveness means that Australian businesses are relatively efficient in their use of resources, and can compete or sell their goods and services both here and in markets around the world at a lower price than overseas rivals.

International specialisation occurs when countries produce only a limited range of goods and services, focusing on those areas where they have the greatest *comparative cost advantage*.

Labour productivity is commonly measured by the level of GDP per hour worked.

Multifactor productivity measures the efficiency with which the combined inputs of labour, capital and natural resources are converted into production.

National savings–investment gap is the shortfall in value between what Australian households, firms and governments save and the level of their investment. This must be covered by overseas borrowing or debt.

Net errors and omissions is an item that reflects the inaccuracies in the recording of international transactions. Its value can be positive or negative.

Net foreign debt (NFD) is the difference in value between what Australian households, businesses and governments have borrowed from and owe overseas, minus what Australia has lent or invested abroad. This debt entails paying interest and repaying the capital borrowed at some time in the future.

Net foreign equity (NFE) is the difference in value between foreign-owned Australian assets (such as property, shares and the retained earnings of overseas-owned companies operating here) and overseas assets owned by Australian residents.

Net goods is a subsection of the BOP current account that records the value of credits for goods exported *minus* the value of debits for goods imported from overseas, measured over a period of time.

Net primary incomes is a subsection of the BOP current account that records the value of credits for primary income received from overseas *minus* the value of debits for primary income paid to overseas, measured over a period of time.

Net reserve assets involves both RBA and government transactions, and includes foreign currencies, monetary gold, and required contributions to overseas governments and international agencies.

Net secondary incomes is a subsection of the BOP current account that records the value of credits for secondary income received from overseas *minus* the value of debits for secondary income paid to overseas, measured over a period of time.

Net services is a subsection of the BOP current account that records the value of credits for services exported *minus* the value of debits for services imported from overseas, measured over a period of time.

Non-official debt represents borrowing overseas by Australian businesses to finance expansion.

Official debt represents borrowing by the government, perhaps to finance budget deficits.

Portfolio investment involves money transactions into and out of Australia involving shares, debt and securities.

Productivity measures the efficiency or output gained from a certain quantity of productive inputs. GDP per hour worked is a measure of labour productivity. There is also multifactor productivity which measures the output gained from all inputs of resources.

Structural CAD is an ongoing deficit on the current account resulting from structural or supply-side problems, including our lack of national savings, high production costs and poor international competitiveness.

Subsidy A cash payment by the government to local producers to help reduce their production costs and selling price, making them more competitive against imports.

Tariff An indirect tax added onto the price of imports to make them dearer to local consumers and protect local industries from overseas competition.

Terms of trade (TOT) is an aggregate demand factor. It represents the ratio of the average prices we receive for our exports relative to the average prices we pay for imports of goods. A rise in Australia's terms of trade is said to be favourable because the world is prepared to pay us higher prices for our exports relative to the prices we pay for imports. Put another way, a given unit of exports will pay for a greater quantity of imports.

Trade liberalisation is a government policy that entails reducing protection of local industry by cutting tariffs, subsidies and import quotas, and the signing of FTAs.

Trade protection is a government policy that involves using high tariffs, import quotas and subsidies to local producers to support local industry so that it can compete with imports.

Trade weighted index (TWI) is an overall guide to the value of the Australian dollar measured against a basket of other currencies, each weighted according to their relative importance in Australia's trade.

Resources

 **Digital documents** Key terms glossary (doc-31501)

Crossword (doc-31505)

Wordsearch (doc-31506)

Match-up definitions (doc-31507)

3.9 Review questions

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

3.9 Exercise 1: Multiple-choice questions

- International relationships exist between countries. Typically, these involve:
 - exports of goods and services.
 - imports of goods and services.
 - exports and imports of goods and services.
 - exports and imports of goods and services along with movements of money capital and investments.
- Currently, Australia's three most important export customers in *descending* order are:
 - China, Japan and the United States.
 - the United States, China and Japan.
 - the United States, Japan and China.
 - Japan, China and the United States.
- Freer international trade usually improves living standards by:
 - increasing efficiency in resource use, growing GDP and decreasing inflation.
 - allowing countries to specialise in areas of comparative cost advantage.
 - growing jobs and incomes, especially in the longer term, thereby increasing our purchasing power.
 - all of the above.
- Study table 3.8 showing hypothetical data below for country A and country B. It shows the total number of hours that must be worked by each employee to produce a unit of wool or a unit of wheat. Each country can produce the same two products, wool and wheat.

TABLE 3.8 Data relating to production costs in two countries

Country	Wool (hours worked per unit produced)	Wheat (hours worked per unit produced)
A	10	50
B	20	200

Based on this data:

- country B has an absolute cost advantage in wheat.
 - country A has a comparative cost advantage in wheat.
 - country B has no type of cost advantage in either product.
 - country B has an absolute and comparative cost advantage in both goods.
- Referring to the data from question 4, which statement is *false*?
 - Country A is more efficient at producing both wool and wheat than country B.
 - Country B is less efficient at producing both wool and wheat than country A.
 - Country B should specialise in the production of wheat because its comparative advantage is greater than that for wool.
 - Country B is relatively more efficient at producing wool than wheat.
 - Which of the following would *not* generally explain a country's *comparative cost advantage*?
 - Superior access to natural resources
 - Lower productivity levels for labour
 - Exploitation of economies of large-scale production
 - A rapid rise in the population of working age

7. Examine table 3.9 showing hypothetical data relating to a nation's balance of payments for 2019–20.

TABLE 3.9 Data relating to a nation's BOP account

Balance of payments item	\$ million (+ surplus, – deficit)
Net goods	+100
Net services	–50
Net primary incomes	–100
Net secondary incomes	+25

From these data, the balance of payments on *current account* would be:

- A. \$125 million surplus.
 - B. \$125 million deficit.
 - C. \$175 million deficit.
 - D. none of the above.
8. Regarding Australia's BOP current account and the BOP capital and financial accounts, which statement is *least correct*?
- A. In total, the capital and financial accounts are a surplus to offset the CAD.
 - B. Australia depends on foreign debt and liabilities to offset the excess of debits on the current account.
 - C. A rise in foreign investment in Australia normally reduces our CAD.
 - D. The existence of a national savings–investment gap ultimately adds to the CAD while creating a surplus on the capital and financial accounts.
9. Which of the following would have the *opposite* effect on the size of Australia's CAD to the other three responses?
- A. Severe climatic conditions result in drought and cyclones in Australia.
 - B. Australia's average inflation rate is consistently below that of our trading competitors.
 - C. There is a rise in domestic consumer confidence and a fall in confidence in China.
 - D. The exchange rate for the Australian dollar rises strongly.
10. Which of the following would be likely to have the *opposite* effect on the size of Australia's CAD to the other three responses?
- A. Overall stronger domestic aggregate demand-side conditions
 - B. A higher household savings ratio domestically from 3 per cent to 10 per cent
 - C. Generally less favourable aggregate supply conditions including weaker rises in domestic productivity, higher RULCs and rises in international oil prices to over US\$100 a barrel
 - D. Less favourable TOT for Australia and rises in defence spending on equipment
11. Concerning Australia's NFD and liabilities, which statement is *false*?
- A. The NFD is the excess of what Australia has lent overseas relative to what we have borrowed.
 - B. The rise in official debt is partly the result of weaker economic activity and hence larger budget deficits.
 - C. Non-official, private sector debt has risen due to the savings–investment gap and lower interest rates in some overseas countries.
 - D. In part, our abundance of natural resources and favourable economic and social institutions help to explain the rise in our external liabilities.

12. Which statement about Australia's trade liberalisation is *most correct*?
 - A. A reduction in the protection levels for local industries
 - B. A general reduction of tariffs to 5 per cent or less, and the removal of higher rates of protection for TC&F (textiles, clothing and footwear) and passenger vehicles from 2015 onwards
 - C. The abolition of import quotas, an overall reduction in the net value of producer subsidies to local industries and the signing of additional FTAs
 - D. All of the above
13. Trade *protectionism* may involve:
 - A. cutting tariffs.
 - B. abolishing foreign capital or ownership restrictions.
 - C. providing Export Development Grants and other types of financial assistance.
 - D. removing anti-dumping legislation for foreign goods.
14. Which of the following is *not* an advantage of *free trade*?
 - A. Resources are diverted to areas where cost disadvantages are relatively lowest and opportunity costs tend to be minimised.
 - B. Local businesses need to restructure their approach to improve efficiency in production.
 - C. Imports of capital goods incorporating new technology become cheaper for local firms, helping to boost their competitiveness.
 - D. Employment rates will probably be higher in the short term.
15. The *dominant* reason for Australia's CAD in recent years is:
 - A. the lack of domestic savings and relatively high local interest rates, which encourage overseas borrowing and lead to massive income repayments abroad.
 - B. too many imports of merchandise and services.
 - C. a lack of export competitiveness and sales abroad.
 - D. Australia's secondary income debits are too high.
16. The CAD represents the extent to which:
 - A. total debits for merchandise imports exceed total credits for merchandise exports.
 - B. total debits for imports of goods and services exceed total credits for exports of goods and services.
 - C. total primary and secondary income debits exceed credits.
 - D. the total value of debits exceeds credits for merchandise, services, primary incomes and secondary incomes.
17. The aggregate demand-side or aggregate supply-side development *most unlikely* to cause an *appreciation* of the Australian dollar is:
 - A. a rise in world commodity prices and the terms of trade.
 - B. a recession in Japan, China and the United States.
 - C. higher domestic interest rates and the relaxation of controls on the level of foreign investment.
 - D. huge new discoveries of natural resources.
18. The aggregate demand or aggregate supply development *most unlikely* to cause a *depreciation* of the Australian dollar is:
 - A. a rise in the federal government budget surplus where government receipts exceed outlays and there is no need to borrow credit abroad.
 - B. a rise in consumer and business confidence associated with the onset of a boom in the level of domestic economic activity.
 - C. a drop in worker productivity.
 - D. an ongoing reduction in R&D funding by the federal government.

19. Which statement is generally *false* for Australia?
 - A. Very strong levels of domestic economic activity usually cause a cyclical fall in the CAD.
 - B. A weaker Australian dollar can actually help improve the balance of net goods.
 - C. Very rapid economic growth resulting in higher inflation can cause a fall in the TWI.
 - D. Foreign borrowing can tend to weaken the balance of payments current account by raising the overall value of primary income debits relative to the overall value of primary income credits.
20. Concerning the balance of payments account, which statement is *false*?
 - A. The sale of Australian wool to Japan would be recorded as a debit on Japan's balance of net goods.
 - B. The payment of share dividends by Telstra Corporation Ltd to overseas shareholders would be recorded as a debit on Australia's capital account.
 - C. Investment by the Royal Dutch Shell oil company of the Netherlands in expanding its operations would be *initially* recorded as an item on the financial account.
 - D. The staging of the Soccer World Cup would be likely to strengthen Australia's net services account.
21. An *improvement* in the terms of trade for Australia would *not* normally result from:
 - A. falling export prices at a rate less than the fall in import prices.
 - B. rising export prices at a rate faster than that for import prices.
 - C. rapid economic growth in Japan, the United States and Asia generally.
 - D. depressed international commodity prices for minerals, wool and cereals.
22. Which of the following is *not* normally regarded as a *disadvantage* of free trade?
 - A. The weakening of national defence and self-sufficiency in times of war and isolation
 - B. A reduction in the opportunities for new industries to get started and create jobs
 - C. The possibility of greater domestic economic stability in times of domestic slowdowns
 - D. Dangerous or unsafe goods becoming more likely to be sold locally
23. Trade liberalisation is *likely* to slow inflation because:
 - A. resources are reallocated into areas where efficiency is highest.
 - B. local firms are exposed to stiffer competition from imports, especially of goods.
 - C. firms can spread their fixed costs more thinly over larger production runs.
 - D. all of the above may be applicable.
24. Which statement about trade liberalisation is *incorrect*?
 - A. For one reason or another, the average unemployment rate appears to now be higher than before significant trade liberalisation as a policy was widely adopted.
 - B. Over a quarter of all jobs in Australia are related to international trade.
 - C. Trade liberalisation may destroy jobs in some industries but is likely to create more jobs overall, especially in the longer term.
 - D. Recent FTAs with Northern Asia are expected to decrease GDP and employment.
25. A *rise* in the Australian dollar is *most likely* to be caused by:
 - A. a fall in the TOT and lower rural and mineral commodity prices.
 - B. a rise in the supply of the Australian dollar due to weaker confidence and lower economic activity domestically.
 - C. a cut in interest rates locally, relative to those overseas.
 - D. stronger levels of global economic activity, especially in China and Japan, and a weaker US dollar.
26. A lower Australian dollar is *likely* to lead to which of the following macroeconomic effects?
 - A. Higher cost and demand inflation, stronger economic growth and lower cyclical unemployment
 - B. Lower inflation and economic growth, with higher structural unemployment
 - C. Overall reduced competitiveness of domestic manufacturing industries that export and compete with imports
 - D. A smaller number of overseas tourists coming to Australia and locals tending to holiday abroad, slowing down the growth in GDP and employment

27. Examine table 3.10 showing data for a hypothetical country's TOT.

TABLE 3.10 Data relating to a nation's terms of trade

Year	Export price index	Import price index
2015–16 (base year)	100	100
2016–17	90	90
2017–18	80	70
2018–19	90	80
2019–20	120	70

Which statement is *false*?

- A. There was no change in the TOT between 2015–16 and 2016–17.
 - B. The TOT moved unfavourably in 2017–18 against that for 2016–17.
 - C. The TOT moved unfavourably in 2018–19 against that for 2017–18.
 - D. The TOT moved favourably in 2019–20 against that for 2018–19.
28. Australia's TOT would tend to *fall* and be *less favourable* if:
- A. there was stronger global economic activity.
 - B. there was weaker global economic activity.
 - C. global disposable income rose.
 - D. there were generally less favourable growing conditions for crops worldwide.
29. Which of the following macroeconomic effects would be *unlikely*, given a general *fall* in Australia's TOT as seen between 2011 and 2016?
- A. Rising demand inflation and economic growth
 - B. Higher cyclical unemployment
 - C. A slowdown in the rate of economic growth
 - D. Lower material living standards
30. Concerning Australia's international competitiveness, which statement is *false*?
- A. Over recent years, our competitiveness has declined.
 - B. Multifactor productivity has risen strongly but the fall in labour productivity has weakened our international competitiveness.
 - C. The progressive cut in company tax for small businesses should help improve our international competitiveness.
 - D. The abundance of many natural resources should enhance our international competitiveness but our relatively high labour costs undermine it.



Resources



Digital documents Multiple choice answer grid (doc-31503)
Multiple choice answers (doc-31504)

3.9 Exercise 2: Extended response questions

1. During 2018 and mid 2019, President Trump increased tariffs on imports of Chinese goods into the United States (along with those from some other countries). This sparked a trade war with China. Discuss how this trade war with China might affect Australian *living standards*. **(4 marks)**

2. Use table 3.11 to calculate the following balance of payments items for Australia, 2017–18. Show your basic working. **(2 marks)**

TABLE 3.11 Australia's balance of payments on current account

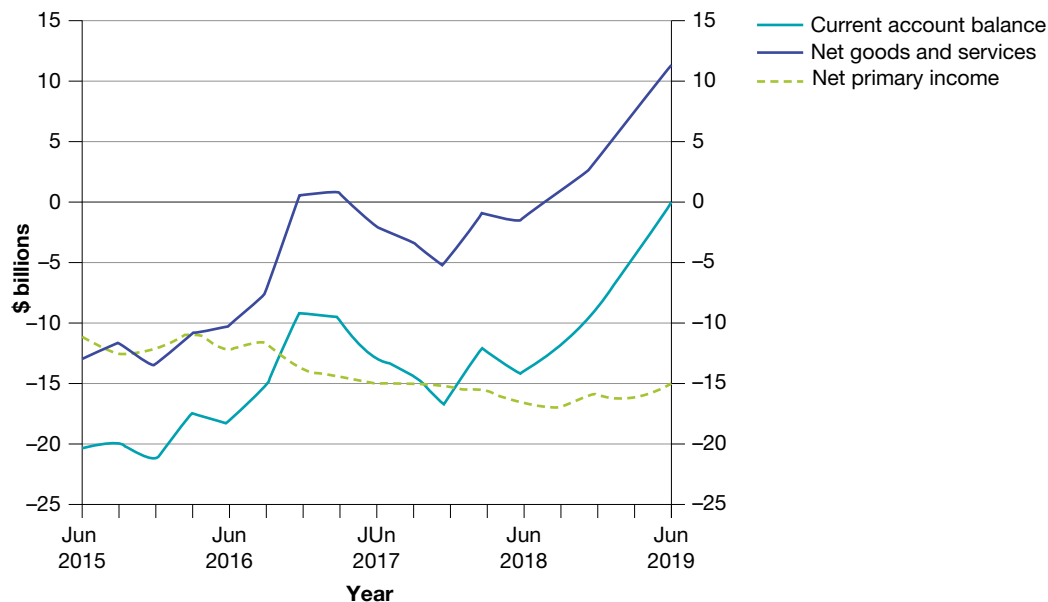
Item	Value (\$'000 billions)	Item	Value (\$'000 billions)
Goods credits	315	Primary income credits (i.e. income credits)	59
Goods debits	302	Primary income debits (i.e. income debits)	116
Services credits	88	Secondary income credits (i.e. current transfers credits)	9
Services debits	93	Secondary income debits (i.e. current transfers debits)	10

Source: © Australian Bureau of Statistics.

Net goods	\$.....b
Net services	\$.....b
Net primary incomes (i.e. net incomes)	\$.....b
Net secondary incomes (i.e. net current transfers)	\$.....b
Balance on capital and financial account	\$.....b

3. Define the term *current account deficit* (i.e. CAD). **(1 mark)**
 4. Examine figure 3.43.

FIGURE 3.43 Trends in key components making up Australia's balance of payments on current account



Source: © Australian Bureau of Statistics.

Using the quarterly graph showing key current account transactions for Australia, describe the general trend in each of the following over the period since June 2016:

- a. Balance on goods and services **(1 mark)**
 b. Net primary incomes **(1 mark)**
 c. Balance on current account. **(1 mark)**

5. Identify and explain how *one* important *aggregate demand* factor and how *one* important *aggregate supply* factor is likely to have affected the size of Australia's *cyclical* and *structural CAD* over the last two years. (4 marks)
6. What is the main *difference* between NFD and NFE? (2 marks)
7. Identify and explain the *two* most important *causes* of the substantial *rise* in Australia's NFD in recent years. (2 marks)
8. What is Australia's *trade weighted index* (TWI)? (2 marks)
9. Explain how Australia's *exchange rate* is determined. (2 marks)
10. Examine the following list of events that have recently affected Australia's exchange rate:
 - Australian interest rates are relatively lower against those in the United States as in 2018–19.
 - A fairly slow level of recent economic activity in China.
 - The recent rise in Australia's TOT Index during 2017–18–19.
 - A fall in Australia's RULCs as in 2018–19.
 - An increase in the repayment of the Australian government's o/s debt.
 - a. Select and explain *one* event that would tend to *strengthen* the A\$. (2 marks)
 - b. Select and explain *one* event that would tend to *weaken* the A\$. (2 marks)
 - c. Explain how the general *depreciation* of the A\$ in the last two years would be likely to affect Australia's achievement of key *domestic macroeconomic goals*. (4 marks)
11. What is meant by the term *international competitiveness*? (1 mark)
12. What are the main causes of the overall *decline* in Australia's *international competitiveness*? (3 marks)
13. How would an *improvement* in Australia's *international competitiveness* be likely to affect each of the following?
 - a. The CAD (1 mark)
 - b. The rate of economic growth (1 mark)
 - c. The unemployment rate (1 mark)
 - d. Material living standards. (1 mark)

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3.9 Practice school-assessed coursework

Three SACs are to be completed for VCE Economics Unit 3. SAC 3 is worth 30 per cent of the total assessment for Unit 3. It assesses the skills and knowledge associated with Outcome 3 that is largely covered in topic 3. The SAC should be part of the regular teaching and learning program, and completed mainly in class and within a limited timeframe. The SAC could involve one or more of the following tasks:

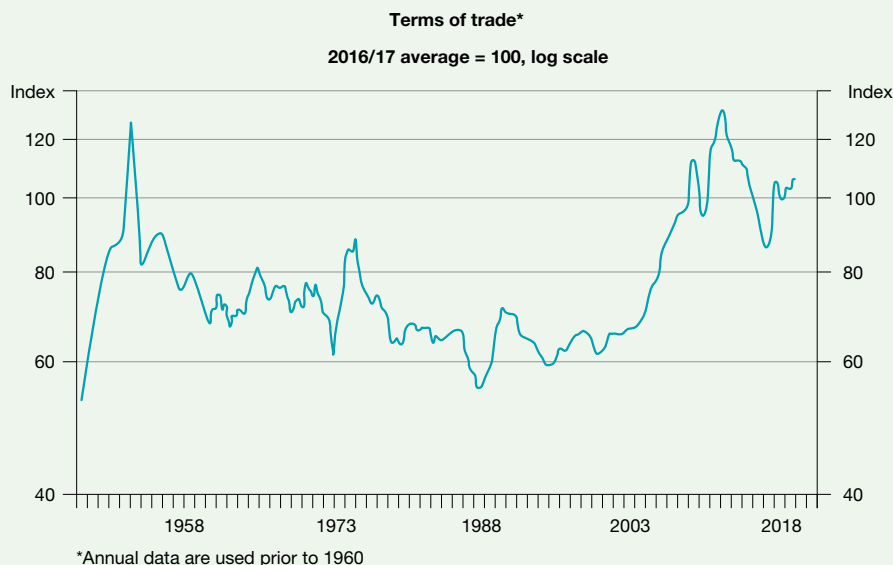
- a folio of applied economics exercises
- an essay
- a report
- structured questions
- media analysis
- case study.

Courses and assessments can change, so teachers are urged to carefully check the latest VCAA *assessment guide* and various *bulletins* to ensure that all the assessment requirements are met fully.

A FOLIO OF APPLIED ECONOMICS EXERCISES

1. The growth of international trade has had mostly good effects on Australian living standards. Explain *three* important ways whereby this is likely to occur. **(6 marks)**
2. Since the early 1970s, the Australian government has adopted the policy of *trade liberalisation*. Explain exactly what this policy has involved. **(2 marks)**
3. Giving the most important reasons, explain how the Australian government's adoption of *trade liberalisation* over many years is likely to have affected each of the following:
(a) The rate of *inflation*. **(2 marks)**
(b) The unemployment rate. **(2 marks)**
(c) The rate of economic growth. **(2 marks)**
(d) Our international competitiveness and size of our *CAD*. **(2 marks)**
4. Recently, President Trump initiated a *trade war* with China and imposed several rounds of higher tariffs on a combined total of \$100 billion of trade. The rises in tariffs were matched by the Chinese. One recent round involved the imposition of a 25 per cent tariff rise by the United States in April 2019 on \$16 billion of imports from China. Explain how this trade war would be likely to affect living standards in the United States. **(4 marks)**
5. Examine figure 3.44 showing changes in Australia's *terms of trade index* to December 2018.

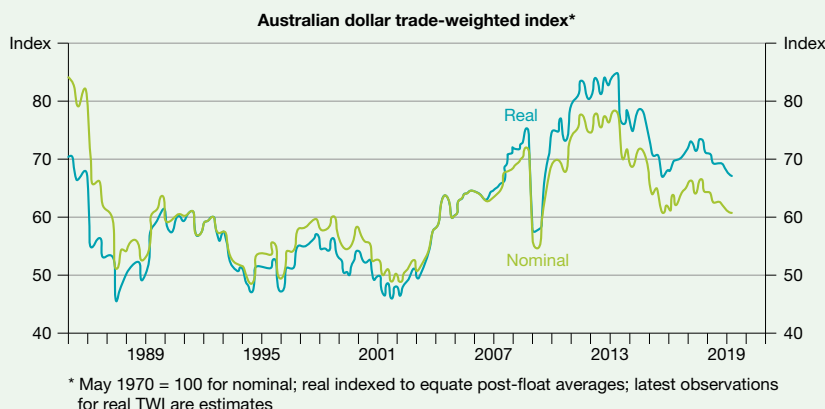
FIGURE 3.44 Trends in Australia's terms of trade



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Commodity Prices Released on 8 May 2019 data updated to 2 May 2019.

- (a) What is meant by Australia's *terms of trade* and how is it measured? (2 marks)
- (b) Identify and explain *one* important *factor* that is likely to have caused the overall rise in Australia's *terms of trade* over the past two years. (2 marks)
6. How would the recent rise in the terms of trade be likely to affect the following:
- (a) Australia's CAD. (2 marks)
- (b) The rate of economic growth. (2 marks)
7. Examine figure 3.45 showing changes in Australia's TWI.

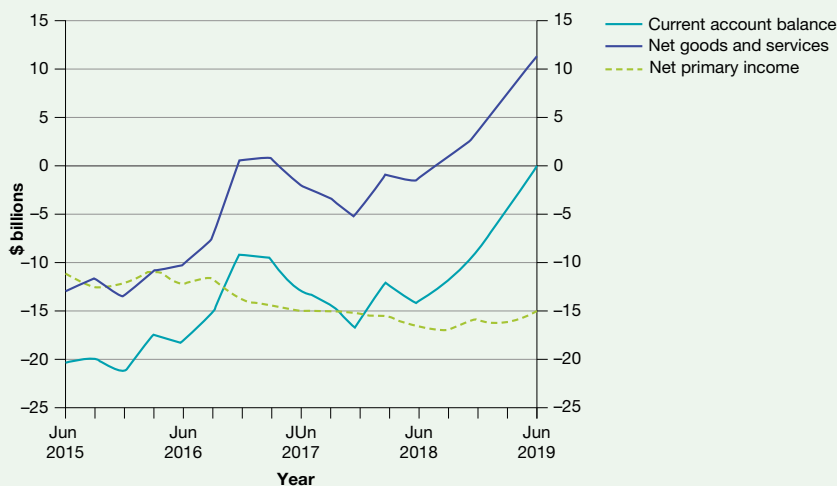
FIGURE 3.45 Trends in Australia's exchange rate (TWI)



Source: © Reserve Bank of Australia, 2001–2019. All rights reserved. Chart Pack - Exchange Rates Released on 8 May 2019.

- (a) Between mid 2016 and mid 2019, Australia's *real exchange rate* (indicated by the TWI) fell overall. Using basic *theory*, identify and explain the main causes of this *fall in our exchange rate* between mid 2016 and mid 2019. (2 marks)
- (b) How would you expect this general *fall* in the exchange rate to affect *Australia's inflation rate*? (2 marks)
8. Examine figure 3.46 showing the main components of Australia's current account balance.

FIGURE 3.46 Trends in the key components of Australia's current account



Note: Seasonally adjusted estimates at current prices.

Source: © Australian Bureau of Statistics.

- (a) Define the *balance of payments current account*, and referring to the graph, describe how this balance changed between June 2017 and June 2018. (2 marks)
- (b) Identify and explain *two* factors that are likely to have *caused* the trend in Australia's current account over the last year. (2 marks)
- (c) Describe the change in Australia's *net primary income balance* over the past two years to June 2018. In your response, make reference to the data contained in the graph. (1 mark)

9. Distinguish between Australia's cyclical CAD and our structural CAD, giving examples of each. **(2 marks)**
10. Giving reasons, explain how, in itself, *stronger* levels of *business confidence* among Australian firms would be likely to affect our *balance of payments on goods and services*. **(2 marks)**
11. What is the national *savings–investment gap*? **(2 marks)**
12. Explain how this gap has affected Australia's NFD and CAD. **(2 marks)**
13. What is the main difference between a rise in Australia's NFD and a rise in NFE? **(2 marks)**
14. Over the last two years, Australia's *international competitiveness* improved marginally, but not enough to make up for the overall deterioration of the last decade. Identify and explain the four most important *factors* that are likely to have caused this overall decrease in our *international competitiveness* in recent years. **(6 marks)**
15. Explain how you would expect poor international competitiveness to affect Australia's *unemployment rate*. **(1 mark)**

AN ESSAY

Write an 800-word essay in answer to *one* of the following questions.

1. Has trade liberalisation lowered Australian living standards and therefore done more harm than good? **(20 marks)**
2. How would you expect the recent change in Australia's terms of trade to affect our material standard of living? **(20 marks)**
3. The Australian dollar fell overall between 2013–14 and 2018–19. How is this likely to have affected the achievement of the government's key domestic macroeconomic goals, the CAD and the standard of living? **(20 marks)**

A WRITTEN REPORT

Change to international transactions

Write a 1000-word report on *one* of the following topics. In total, it is worth 20 marks. Ensure you include statistical data, diagrams and graphs where appropriate.

1. Analyse the key reasons for the overall decline in Australia's international competitiveness over the past decade. How would this be likely to affect Australia's material living standards?
2. *Discuss* how the growth of international trade might impact on Australia's key domestic macroeconomic goals and living standards.

UNIT 4

MANAGING THE ECONOMY

The unfortunate reality is that free market economies where there is no government intervention or regulation, tend to perform poorly, undermining our prosperity and living standards.

For this reason, the Australian government applies both aggregate demand budgetary and monetary policies to regulate total spending, and aggregate supply policies such as tax reform and investment in infrastructure, to grow our productive capacity. As a result, careful use of this combination of policies can enhance the achievement of Australia's key domestic macroeconomic goals, creating conditions optimal for enjoying better living standards.

AREA OF STUDY	OUTCOME	TOPICS
1 Aggregate demand policies and domestic economic stability	Discuss the nature and operation of aggregate demand policies and analyse how the policies may influence the Australian government's domestic macroeconomic goals and how these goals may affect living standards.	4 Aggregate demand policies and domestic economic stability
2 Aggregate supply policies	Discuss the nature and operation of aggregate supply policies and analyse how the policies may influence the Australian government's domestic macroeconomic goals and how these goals may affect living standards.	5 Aggregate supply policies and domestic economic stability

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4 Aggregate demand policies and domestic economic stability

4.1 Overview

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4.1.1 Introduction

Let us take a sneak preview of what lies ahead in VCE Economics Unit 4. Essentially, it focuses on how the federal government uses its aggregate demand policies (Outcome 1) and aggregate supply policies (Outcome 2) to help improve Australia's domestic economic stability and prosperity. It is about lifting the performance of the economy so that living standards are optimal.

Earlier in topic 2, we saw that our market economy typically experiences economic instability with booms and recessions. This undermines the simultaneous achievement of the government's three key macroeconomic goals required for domestic economic stability:

- *the goal of low inflation* (a slow average rise in general consumer prices of 2–3 per cent a year over the economic cycle)
- *the goal of a strong and sustainable rate of economic growth* (the fastest growth in national production — around 3 per cent per year rise in GDP — that does not jeopardise the achievement of other economic and environmental goals)
- *the goal of full employment* (the lowest unemployment rate — around 4.5–5 per cent of the labour force, or a little less — that does not accelerate inflation).

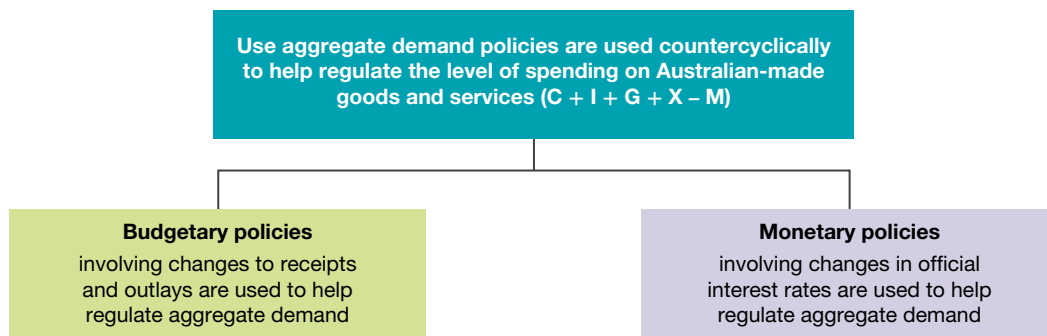
Economic instability (represented by the business cycle) is largely attributed to changes in the general strength of aggregate demand-side factors affecting total spending ($AD = C + I + G + X - M$). However, the economist John Maynard Keynes pointed out that cyclical instability can be reduced by the government applying *aggregate demand policies* in a countercyclical way, so during a slowdown or recession they gradually switch to become more expansionary to stimulate activity, and during the recovery or boom they progressively become more contractionary to steady spending and avoid inflation.

In recent years our economy has been growing more slowly, causing unemployment to be higher than usual and inflation to be really low. One reason for this is that consumer spending has been rising more slowly due in part to weaker confidence that encourages saving, along with the slowdown in some overseas markets. Overall, to help stimulate economic activity and achieve our domestic macroeconomic goals, the federal government and the Reserve Bank of Australia used budgetary and monetary policies to help stimulate spending and domestic economic activity.

With this in mind, topic 4 (part A) puts the spotlight on the federal treasurer's government's *budgetary policy* while topic 4 (part B) looks at the Reserve Bank's *monetary policy*.

FIGURE 4.1 Treasurer Josh Frydenberg delivers his first budget in April 2019



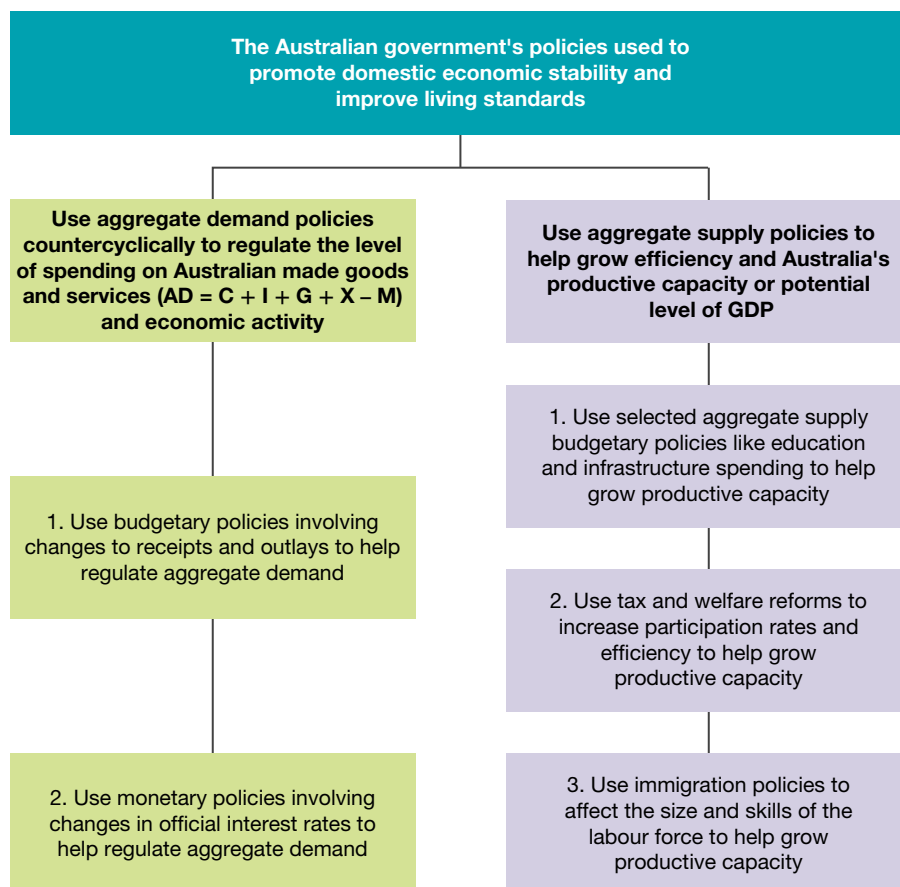


Together these two measures are used to help to stabilise the growth of AD to ensure it is economically sustainable and does not exceed the growth in the economy's productive capacity or aggregate supply.

Additionally, however, in topic 5 we study *aggregate supply policies* including tax and welfare reforms, immigration policy and aspects of budgetary policy like spending on national infrastructure and education. This is because these efficiency promoting policies have the potential to help accelerate the growth of the economy's productive capacity. This helps to ensure that rising levels of aggregate demand can be met or actually satisfied through increases in the economy's aggregate supply.

Through this *policy mix*, or combination of aggregate demand and aggregate supply policies summarised in figure 4.2, it should be possible for the government to improve Australia's prosperity and ensure the economy's performance is optimal.

FIGURE 4.2 Overview of government aggregate demand and aggregate supply policies used to help promote domestic macroeconomic goals and improve living standards



4.1.2 What you will learn

KEY KNOWLEDGE

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

Budgetary policy

- sources of government revenue including direct and indirect taxation, revenue from government businesses and the sale of government assets
- types of government expenses including government current and capital expenditure and transfer payments
- the budget outcome: balanced, deficit or surplus
- the ways government may finance a deficit or utilise a surplus
- the relationship between the budget outcome and the level of government (public) debt
- the role of automatic stabilisers (cyclical component of the budget) in influencing aggregate demand and stabilising the business cycle
- the role of discretionary stabilisers (structural component of the budget) in influencing aggregate demand and stabilising the business cycle
- the effect of automatic and discretionary changes in the budget on the budget outcome and government (public) debt
- the stance of budgetary policy: expansionary or contractionary
- the effect of budget initiatives from the past two years on the Australian Government's domestic macroeconomic goals of strong and sustainable growth, full employment and low inflation.

Monetary policy

- the role of the RBA with respect to monetary policy as outlined in its charter
- the role of open market operations in altering interest rates
- transmission mechanisms of monetary policy and their influence on the level of aggregate demand including savings and investment, cash flow, availability of credit, exchange rate movements and asset prices
- the stance of monetary policy: expansionary or contractionary
- the focus of monetary policy from the past two years on the levels of aggregate demand and the Australian Government's domestic macroeconomic goals of strong and sustainable economic growth, full employment and low inflation
- the strengths and weaknesses of using monetary policy to achieve the Australian Government's domestic macroeconomic goals and how these goals may affect living standards.

KEY SKILLS

- define and use key economic concepts and terms relating to the Australian Government's aggregate demand policies
- gather relevant data and information about the nature and operation of aggregate demand policies in Australia
- discuss and analyse the effect of contemporary factors on the setting of aggregate demand policies
- evaluate the strengths and weaknesses of aggregate demand policies in achieving the Australian Government's domestic macroeconomic goals.

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Resources



Digital documents Key terms glossary (doc-31509)



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PART A Aggregate demand budgetary policies and the pursuit of domestic economic stability

4.2 Definition and aims of budgetary policy

KEY CONCEPT

- the federal government's *budgetary strategies* or policy is designed to help promote the Australian government's domestic macroeconomic goals and improve living standards

4.2.1 Definition of budgetary policy

Budgetary policy (sometimes also called fiscal policy) relates to the estimated changes in the level and composition of federal government revenues (receipts or incoming money) and expenses (outlays or outgoing money) for the year ahead.

- Budget revenues** come from *direct taxes* such as those on personal income and company profits, and from *indirect taxes* such as excise or tariffs, along with *non-tax* revenue.
- Budget expenses** arise from various types of government outlays on public goods such as defence, health and education, involving both government *consumption* spending (G_1) and government *investment* spending (G_2), as well as transfer payments including welfare and subsidies.

The *difference* in value between the government's expected revenues and expenses is called the overall **budget outcome** which, as we shall soon see, might be a *deficit* (when the value of receipts is less than outlays), *surplus* (when receipts are greater than outlays) or *balance* (when receipts are equal to outlays).

Budgetary policy is regarded as a key macroeconomic or **aggregate demand management policy** instrument, simply because changes in the levels of government revenue (receipts) and expenses (outlays) can have a powerful overall effect on total expenditure (especially the levels of C, I and G), national production, employment and the general level of prices or inflation.

However, because budget receipts and outlays are only *estimated* values based on certain *assumptions* and *forecasts*, what is announced on Budget night might not actually happen, particularly in an election year such as 2019 and when the government doesn't have a strong majority in the Senate. As we have seen in recent years, the actual or closing budget numbers might be quite different to those forecast, reflecting *unexpected* developments. For instance, *actual* budget deficits have often been *bigger* than anticipated due to weaker economic growth, higher unemployment, weaker wage growth, depressed TOT, a global slowdown, greater household and business pessimism, and the failure of the government to get its policies passed through the Senate or upper house.

Sometimes, if economic circumstances deteriorate significantly from those when the budget is usually announced (usually in May each year), it might be necessary for the federal treasurer to bring down a *mini budget*, or at least revise the numbers during the Mid-Year Economic and Fiscal Outlook (MYEFO) that is updated, usually in December each year.

4.2.2 The domestic macroeconomic aims of budgetary policy

The medium-term *operational aim* of recent budgetary policy has been to gradually return to a budget surplus at a prudent rate (see explanation in section 4.5.3). However, within this general framework and the backdrop of a weaker economy, recent budgets have also sought to promote the Australian government's key domestic macroeconomic goals including low inflation, strong and sustainable economic growth and full employment. Through these, the hope is to create optimal economic conditions for better living standards.

More specifically, in their budget speeches, recent Treasurers have focused on particular objectives.

Budget	Focus objectives
2017–18 budget	Sought to ‘grow our economy and create more and better paid jobs’, ‘reduce cost of living pressures’ and ‘ensure the government lives within its means’
2018–19 budget	Emphasised that ‘a stronger economy will create more jobs and guarantee the essential services that Australians rely on’
2019–20 budget	Delivered earlier than usual, given the timing of the federal election. It claimed to restore our nation’s finances without increasing taxes, strengthen the economy, create more jobs, provide essential services and tackle cost of living pressures

4.2 ACTIVITIES

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Check your understanding

1. Define budgetary policy.
2. What are the aims of budgetary policy?

Applied economic exercises

1. In what ways can budgetary policy be regarded as an aggregate demand policy? **(2 marks)**
2. (a) What is the medium-term *operational goal* of budgetary policy? Why is it important to achieve this aim? **(2 marks)**
 (b) Besides the general operational goal of recent budgetary policy, what are the *two* main domestic macroeconomic goals pursued by recent budgets? **(2 marks)**

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4.3 Sources of government revenue (receipts)

KEY CONCEPT

- sources of government revenue including direct and indirect taxation, revenue from government businesses and the sale of government assets

Budget revenues are the federal government’s incoming receipts of money that are used to pay for budget outlays. As such, they impact greatly on disposable incomes, AD, economic activity, inflation, unemployment, the allocation of resources, external transactions, income distribution and living standards.

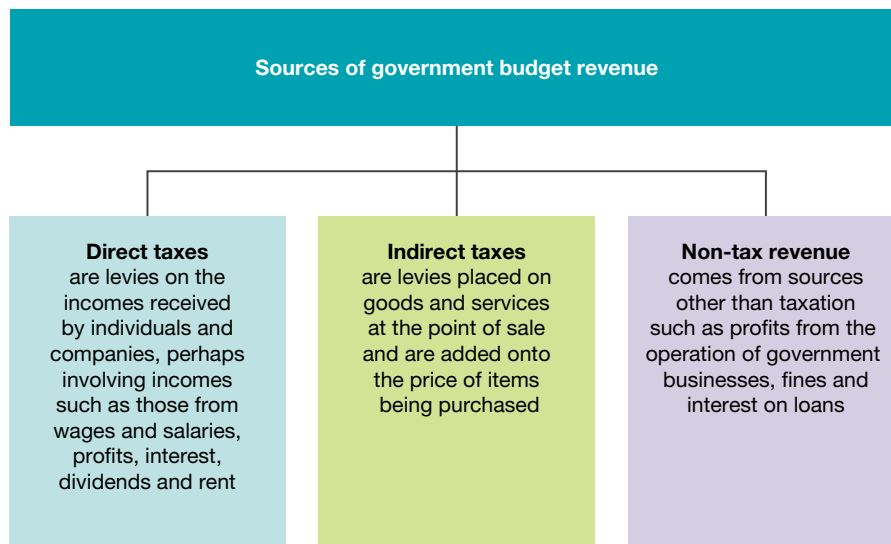
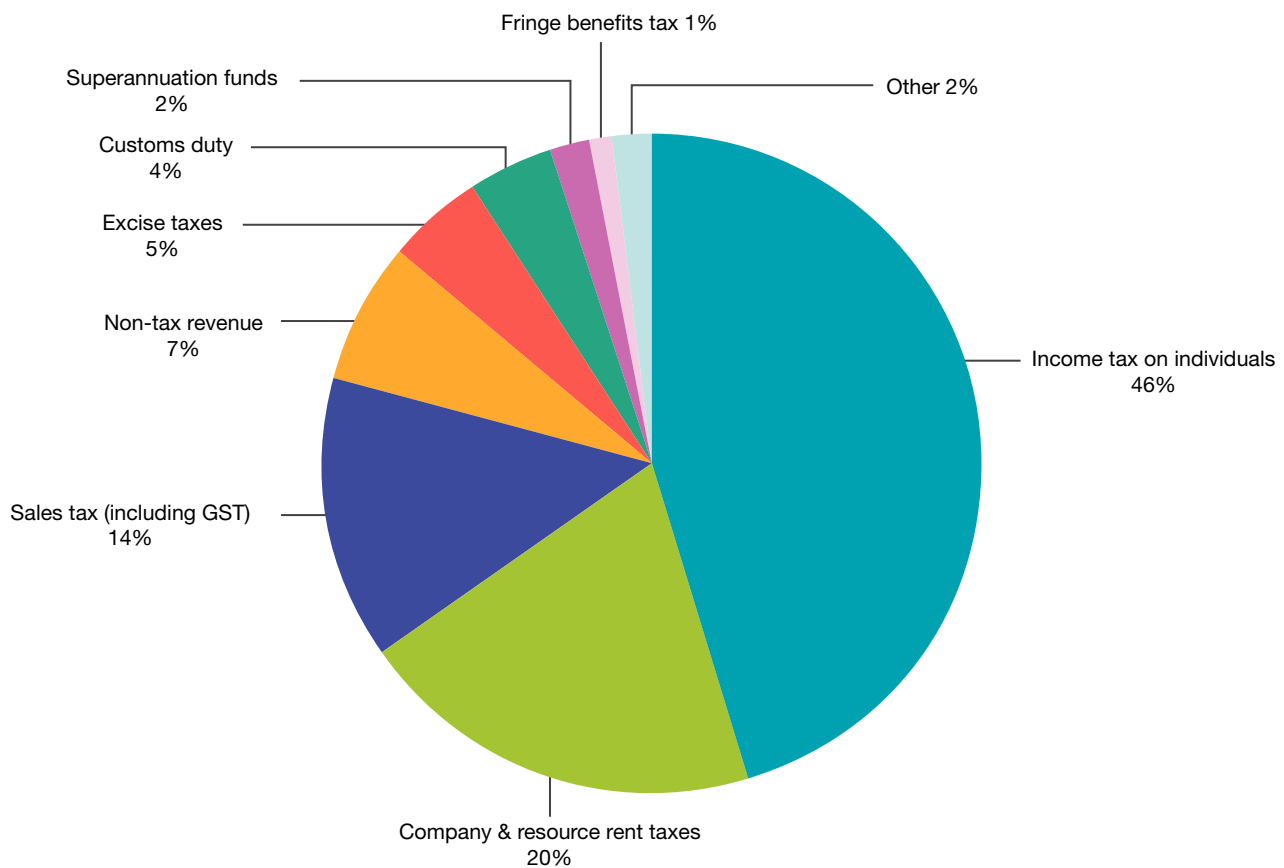


FIGURE 4.3 Sources of estimated federal budget receipts of \$513.8 billion for 2019–20, calculated as a percentage of total revenue



Source: © Commonwealth of Australia 2019.

4.3.1 Direct taxation

Direct taxes levied on those receiving incomes, make up almost 70 per cent of all budget receipts.

They include the following:

- *Personal income tax* is a direct tax paid by individuals who earn incomes in the form of wages, salaries, rent, interest and dividends. For most people, income tax is deducted by firms from the pay packets of employees before they are paid (**pay-as-you-go** or PAYG). However, for self-employed individuals, a different system exists for estimating income and the amount of tax that must be paid. In both cases, tax is levied (charged) at progressive rates where the marginal tax rate, or percentage of income taken in tax, increases as income rises. In 2019–20, 2020–21 and 2021–22, personal income tax rates ranged from 0 per cent on incomes below the tax-free threshold of \$18 200 per year, up to the top marginal tax rate of 45 per cent on annual taxable incomes in excess of \$180 000 (47 per cent after the 2 per cent Medicare levy is added). In addition, there are further reductions in tax for low- and middle-income earners through rises in income tax offsets or rebates. Overall, income tax raises around 46 per cent of all federal government receipts.
- *Capital gains tax (CGT)* is levied on the real profits made from the sale of capital assets such as land and shares purchased after 1985. During 2018–19, the CGT applied to only 50 per cent of the capital gain, so the actual rate is only half the normal appropriate marginal income tax rate (with the Medicare levy added). Currently this means that the effective top marginal income tax rate is around 23.5 per cent. However, recent discussions may result in changes to this tax rate.
- *Medicare levy* is a direct tax designed to provide medical insurance in order to help cover the basic costs of family health care and the National Disability Insurance Scheme. For most people, this is levied at a rate of 2 per cent of personal taxable incomes.
- *Withholding tax* is applied to individuals who fail to register their tax file number when receiving income such as dividends and interest. This is currently levied at the top marginal tax rate (excluding the Medicare levy) of 45 per cent.
- *Company tax* is a flat or proportional tax levied directly on business profits. In recent years this tax has been progressively reduced so that for 2019–20, the rate was 27.5 per cent for small to medium-sized businesses with an annual turnover up to \$50 million. Further reductions are scheduled so that by 2020–21, the rate will drop to 26 per cent and by 2021–22, the rate will fall to 25 per cent for all but the largest companies that will remain on the 30 per cent tax rate. Company tax raises around 20 per cent of all budget revenue. In addition, there is a special additional levy on bank profits.
- *Fringe benefits tax (FBT)* represents a direct tax paid by firms on the value of ‘perks’ provided by businesses to their employees, such as a company-provided car or house. Currently, this is levied at 47 per cent of the taxable benefit.
- *Petroleum resource rent tax (PRRT)* is levied at 40 per cent of the profits made from offshore petroleum operations.
- *Superannuation fund tax* is levied at 15 per cent of most premiums, as well as on the interest from fund investments. Currently, people aged over 60 can withdraw their superannuation tax-free, but this may change.



4.3.2 Indirect taxation

Indirect taxes are added onto the price of some goods at the point of sale, and make up nearly 25 per cent of all budget receipts. They include the following:

- *Excise duty* is an indirect tax imposed on selected, locally produced goods such as petrol, alcohol and tobacco. It is a flat amount of tax per physical unit (e.g. a kilogram or a litre). For example, the excise on unleaded petrol is about 30 per cent of the price of each litre sold, while that for brandy is over \$50 per litre of alcohol. The precise rates applicable are adjusted twice a year and are indexed or linked to changes in the CPI. Overall, excise tax raises about 5 per cent of government revenue. The system of excise duty on alcohol has been reviewed, with steep rises in the excise on tobacco in recent years.
- *Customs duties or tariffs* are an indirect tax levied on certain imported goods to raise revenue and protect local producers from foreign competition. Since the early 1970s, and especially between 1984 and 1996, the general tariff rate for manufactured goods was reduced dramatically from an average rate of nearly 40 per cent to 5 per cent or less.

- *Goods and services tax (GST)* was introduced in July 2000 and is a broad-based indirect tax levied at the rate of 10 per cent in 2019–20. It is collected by the federal government on behalf of the states and territories. Consumers pay the GST when they purchase goods and services. The retailer adds GST to the price of items when they are sold, making the GST a regressive tax because the tax burden or rate (expressed as a percentage



of their income level) is heavier for low-income earners than it is for high-income earners. Although the GST is levied on most things, for equity reasons there are currently some exemptions for necessities including basic unprocessed foods, residential rent, gifts to charities, secondhand goods, government charges for rates, water and car registration, export production, education and school fees, health care, health insurance, women's sanitary products, prescription medicines and public health goods, nursing home charges, childcare and financial services. In recent years, there has been periodic discussion about changing the GST tax rate and or its tax base.

4.3.3 Non-tax revenue (revenue from government businesses and the sale of government assets)

Non-tax receipts currently raise around 7 per cent of all federal government revenues. They come from three main sources:

- The profits gained from the operation of *government business enterprises* that sell goods and services (such as Australia Post).
- Receipts from asset sales when government business enterprises (GBEs) are *privatised*, such as Medibank Private in 2014 (however, these will only be included in the *headline* budget outcome and *not* the *underlying* outcome).
- Interest (e.g. earned by the Future Fund), petroleum royalties, the repayment of loans by state and local governments, HECS loan repayments by students, GST administration costs and property rentals.



4.3.4 Other features of the tax system

Other important features of the budget's tax system include the following.

Tax mix

The tax mix refers to the balance between direct and indirect taxes as sources of revenue. Around 93 per cent of all federal revenues are derived from taxation, of which around 69 per cent is from direct taxes on incomes. Of the remainder, just over 24 per cent comes from indirect taxes, with the 7 per cent balance from non-tax revenue.

Tax base

The tax base refers to how broadly the particular tax is applied. For example, currently the GST exempts most necessities. If the tax base was widened and covered all goods and services, more revenue would be raised.

Tax burden

The tax burden relates to the *rates* of direct or indirect tax applied. In the case of progressive personal income tax, the average tax burden automatically tends to increase over time, because rising levels of incomes and inflation cause people to move into higher marginal tax brackets. This is referred to as **bracket creep** (also called *fiscal drag*) and can be avoided only by regular and deliberate cuts in tax rates or changes in the tax brackets.

4.3 ACTIVITIES

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Check your understanding

1. Define budget receipts.
2. What are the main sources of budget receipts?

Applied economic exercises

1. Distinguish the following pairs of terms:
 - (a) A direct tax and an indirect tax, giving an example of each. (2 marks)
 - (b) Personal income tax and company tax. (2 marks)
2. How might each of the following changes in tax affect the level of AD (i.e. $C+I+G+X-M$)?
 - (a) A reduction in the marginal rate of personal income tax. (2 marks)
 - (b) An increase in the rate of capital gains tax. (2 marks)
3. What is *bracket creep* and how does this affect the level of *budget revenues* over a period of time? (2 marks)

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4.4 Types of government expenses (outlays)

KEY CONCEPT

- types of government expenses including government current and capital expenditure and transfer payments

Budget expenses relate to how the government uses the revenues it collects to directly or indirectly provide households and businesses with goods, services and incomes and hence can affect AD and economic activity mainly by changing the levels of C and I.

These expenses or payments can be classified in two ways:

1. the specific functions they serve
2. their general nature or type.

4.4.1 Classifying government budget expenses by their function

Budget expenses are directed to the provision of particular goods, services and other *functions* including the following:

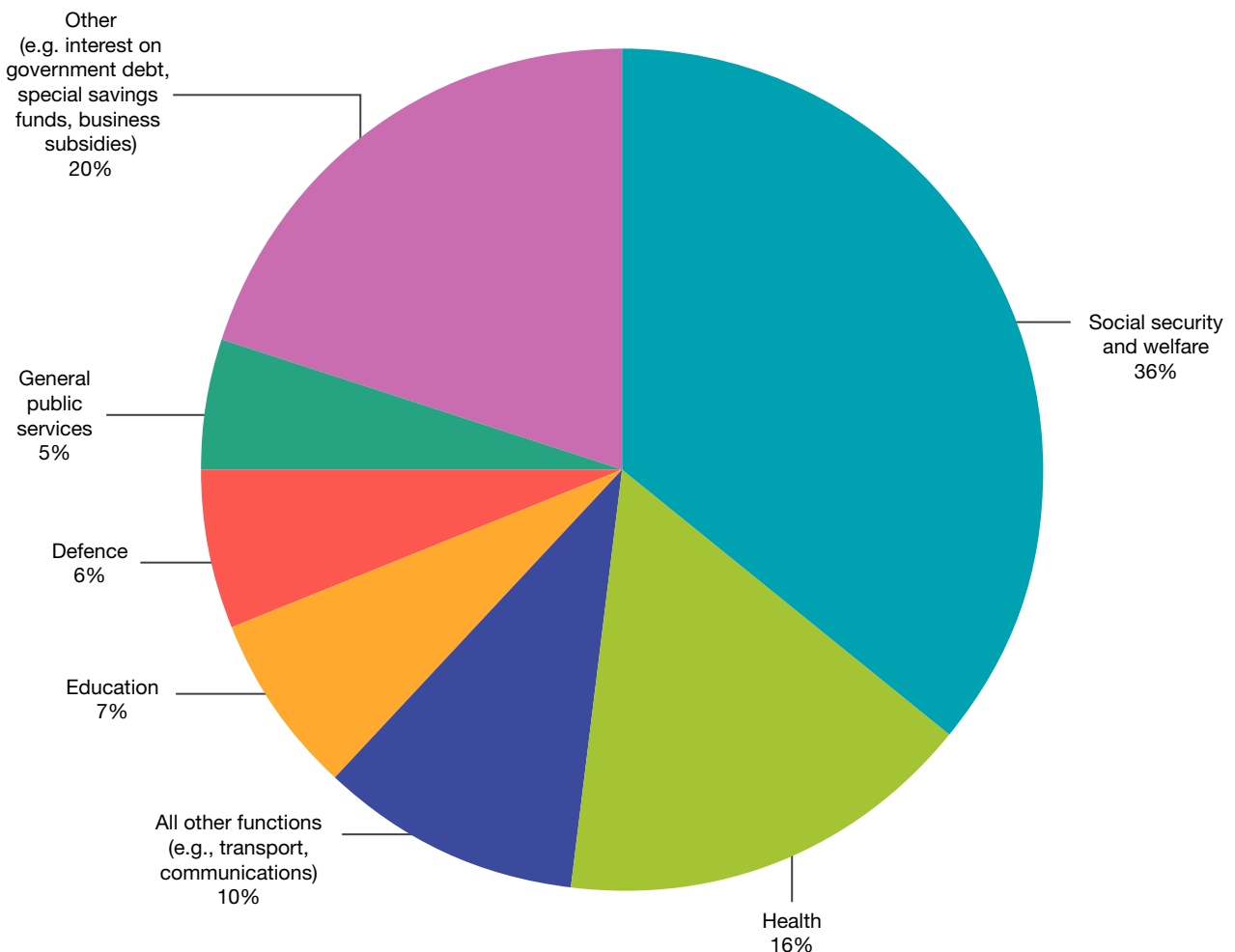
- *Social security or welfare outlays* are government cash transfer payments to the neediest groups who meet the means and assets tests (i.e. those whose incomes and assets are below certain cut-off levels). These benefits represent over 36 per cent of all government outlays and include those for the aged, unemployed job seekers, supporting parents and families, carers, students, the disabled and war veterans.
- *Health spending* entails the provision of medical attention and incorporates consumption outlays on running expenses (such as drugs and staff salaries), along with the funding of capital infrastructure (such as hospital buildings) within the public health system. In addition, health outlays cover the funding of medical subsidies paid for doctors' services, the provision of free hospital services by state governments and some prescribed pharmaceuticals. This accounts for around 16 per cent of budget outlays.
- *Defence* involves budget outlays for the payment of staff and day-to-day running expenses for the armed services. Increases in finance are provided where necessary for our defence capacity, peacekeeping activities, border protection and surveillance, and for the war on terrorism. This takes around 6 per cent of budget outlays.
- *Education spending* represents more than 7 per cent of budget outlays and is designed largely to help provide public education through the payment of staff and the provision of ordinary operating expenses, along with capital spending. These outlays also include spending on universities, support of state and non-government schools, vocational education and training (VET) and building programs.
- *Transport and communications* cover current and capital spending on the provision of government infrastructure in areas like road, shipping, aviation and rail services. The roads of national importance or highways programs, and the recent nation-building infrastructure packages involving improvements to ports, railways, roads and the broadband network, are specific examples of these outlays.
- *Housing and community amenities* include outlays to provide public housing, measures to cut greenhouse gas emissions and support alternative energy sources, and water supply programs.
- *General public services* outlays take up almost 5 per cent of expenses and include those for the payment of wages and salaries for public servants, government administration and parliament, and overseas aid and foreign affairs.
- *Public debt interest* is the annual cost to the federal government of paying interest on its accumulated debts or borrowings. Debt arises when the government wants to finance a budget deficit and involves the payment of interest to holders of government bonds and securities. During and following the global financial crisis (GFC) (between 2008–09 and 2018–19, and perhaps beyond 2019–20), the federal

government ran up massive budget deficits totalling over \$360 billion to stimulate economic activity. These budgets were financed by domestic and overseas borrowing and again require the annual repayment of public debt interest (around \$17 billion in 2018–19).

- *Net payments to other governments* are federal handouts to state and local governments to enable them to provide community services including public education, health, housing and transport. Traditionally these payments were necessary because the states had few other sources of revenue from which to fund their outlays and responsibilities.
- *Mining, manufacturing and construction* outlays involve government help for industry research and development, special assistance provided to the automotive and textile industries to help structural adjustments associated with reduced tariffs, and the introduction of exploration tax offsets for mining companies.

Figure 4.4 shows that the government's main priorities in 2019–20 for resource allocation by *function* include social security, health, education and defence. Clearly the government is using the budget to correct market failure and improve the allocation of resources that would otherwise occur if there was total reliance on the market or price system.

FIGURE 4.4 Direction of estimated federal budget expenses of \$500.9 billion by function for 2019–20, calculated as a percentage of total outlays



Source: © Commonwealth of Australia 2019.

4.4.2 Classifying government budget expenses by their general type

Apart from looking at the different functions of budget outlays, government expenses can also be broken down according to their general nature or type:

1. **Government current spending (G_1).** Government current (or consumption) spending (abbreviated as G_1) includes the payment of wages and salaries for federal government employees (around \$30 billion) in the public sector including health, education, defence, housing, transport and welfare, along with the day-to-day operating expenses of departments. In addition, sometimes these government departments need to purchase goods and services from the private sector such as prescription drugs and medications used in hospitals, educational materials for schools, food and munitions for the defence department and the cleaning and repair of public assets. In the 2019–20 budget, this represented about 90 per cent of all government spending.
2. **Government capital spending (G_2).** Government capital (or investment) spending (abbreviated as G_2) involves budget outlays on national social and economic infrastructure including the building of schools and universities, roads and highways, airports, reservoirs and water supply, the national broadband network system (NBN), pipelines and the purchase of capital equipment for hospitals, schools, universities and railways. An important reason for government capital spending is that it helps to grow the economy's productive capacity, make conditions more favourable for businesses to operate and improve the daily lives of households. In the 2019–20 budget, this represented about 10 per cent of all government spending.
3. **Government transfer payments.** These mainly involve budget outlays on welfare benefits, along with grants and industry assistance. Social security payments are means- and assets-tested transfer payments to the neediest individuals in society (those whose incomes and assets are below certain tapered cut-off levels). These benefits include those for the aged, unemployed job seekers, supporting parents and families, carers, students, the disabled and war veterans. Their main aim is to redistribute final incomes more equitably than that for market or private incomes so that even the poor can better access basic goods and services. This helps to reduce poverty and improve general living standards. Overall, federal welfare outlays claim around 36 per cent of total budget expenses. In the next few years, spending on this area is expected to rise, partly because of our ageing population. Note that transfer payments are not regarded as government spending (G_1 or G_2) because it is the recipient of transfer payments who actually spends the money.

Sometimes the government provides collective goods and services (such as basic education, most roads and ABC television) to the community free of direct charge. At other times, services are sold at a reduced or subsidised price to make them more affordable (e.g. public housing, higher education, health). Increasingly, however, the *user-pays principle* has been applied. This means that individuals and firms using government-provided services are charged a price sufficient for the government to cover costs or make a profit, thereby helping to increase non-tax revenues. There is also a trend towards the *corporatisation* of some government businesses. Again, this reflects the government's desire to reduce costs, slow rises in budget outlays and ultimately return the budget to surplus.

As expected, the impact of budget outlays on both domestic and external stability will vary, depending on the proportion of outlays that are actually spent overseas. For instance, the purchase of imported defence equipment, or rises in foreign aid, tend to slow domestic activity and increase our current account deficit (CAD).



Resources



Weblink Keynesian economics with Jacob Clifford

4.4 ACTIVITIES

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

Check your understanding

1. What are *budget expenses*?
2. How can they be classified?

Applied economic exercises

1. What are the *three* most important areas of federal government budget outlays or expenses by function? (3 marks)
2. Giving examples, *distinguish* between the following pairs of terms related to budget expenses:
(a) G_1 and G_2 (as part of budget outlays or expenses) (2 marks)
(b) Government spending and government transfer payments. (2 marks)

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4.5 The budget outcome

KEY CONCEPTS

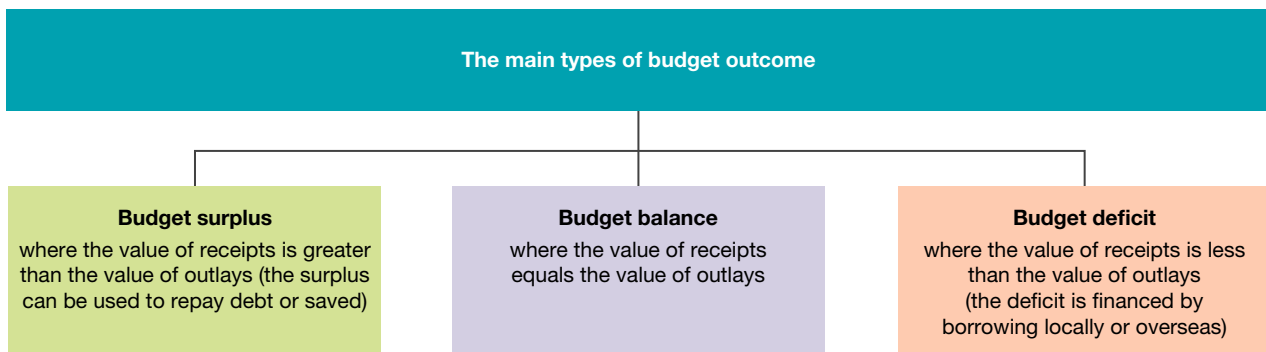
- the budget outcome: balanced, deficit or surplus
- the ways government may finance a deficit or utilise a surplus
- the relationship between the budget outcome and the level of government (public) debt

In simple terms, the *budget outcome* reflects the difference between revenues and expenses. On this basis, there are *three* possible budget outcomes:

- *budget balance* where the total value of receipts or revenue = the value of outlays or expenses
- *budget deficit* where the total value of receipts or revenue < the value of outlays or expenses
- *budget surplus* where the total value of receipts or revenue > the value of outlays or expenses.

Let us now take a closer look at these *three* budget outcomes as summarised in figure 4.5.

FIGURE 4.5 The three main types of budget outcome



4.5.1 A balanced budget

A **balanced budget** is where the total value of government receipts or revenues extracted exactly *equals* the total value of expenses or outlays pumped back into the economy. In itself, a balanced budget is neither *expansionary* nor *contractionary* in its impacts on the level of AD and economic activity. In a general sense, this outcome tends to have little effect on overall levels of production, employment and inflation. It is, therefore, said to be a relatively *neutral stance*.

4.5.2 Budget deficits and how they might be financed

When the budget outcome is negative or in *deficit*, the total value of government revenue is *less* than the total value of government expenses. This outcome occurred between 2008–09 and 2018–19, with cumulative deficits over \$360 billion.

There are *three* ways to finance a budget deficit.

1. *Borrow from overseas.* The government or Treasury can borrow from overseas by, for instance, selling Australian government bonds. This approach was used to finance large budget deficits during and following the GFC between 2008–09 and 2018–19 that in themselves, added stimulus to AD and economic activity. However, such borrowing adds to our net foreign debt (NFD). Additionally, it may initially increase the demand for the Australian dollar and push up the exchange rate in the short term, thereby causing unwanted reductions in the value of net exports, slowing AD and economic activity. Furthermore, it increases interest repayments (primary income debits) and thus grows the size of the current account deficit (CAD).
2. *Borrow from the RBA or create money.* The government may choose to borrow from the Reserve Bank of Australia (RBA). There are two possibilities. The government could use up any savings balances it has with the RBA accumulated during periods of budget surpluses. Alternatively, the government could sell IOUs (*I owe you*, where the government will repay the debt with interest at some future date) or bonds to the RBA. This is the same as issuing instructions to print more money. This latter option is regarded as a very expansionary way of financing the deficit because it adds directly to the volume of money in circulation and the level of spending.
3. *Borrow from the Australian public or financial sector.* The government could borrow from the Australian public and financial sector by selling them government bonds or treasury notes. Indeed, this was one of the methods recently used by the federal government to finance budget deficits during and following the GFC between late 2008 and 2019. This option is a fairly sound method of financing a budget deficit since the money, withdrawn from the economy's private sector by the sale of government securities, is returned when the government actually uses the money to cover its budget outlays. However, this approach could cause upward pressure on domestic interest rates because the government is also competing against the private sector for access to limited savings. In turn, higher interest rates may **crowd out** and depress private sector borrowing, investment spending and economic activity at a time when policy needs to boost AD and economic activity.

While budget deficits are necessary when economic activity is weak, they are also associated with certain *problems*:

- *The loss of a nation's good credit rating.* Budget deficits normally add to official or public sector debt. Over time these can build up and get out of hand, as has happened in Greece, Spain and Japan. In turn, this could lead to a downgrading of our international AAA credit rating, which might later make it more expensive to borrow due to higher interest rates reflecting the increased risk for lenders.



Source: The Australian, Wednesday 3.4.19, John Hanna.

- *Interest payments take money from providing community services.* Deficits that are financed by borrowing involve the payment of interest. This involves an opportunity cost. It diverts money and resources away from more productive uses like the provision of adequate education, welfare and health. For instance, in 2018–19, the interest payments on the Australian government’s debt amounted to a massive \$17 billion.
- *Less able to deal with economic crises.* Persistent large budget deficits weaken the government’s ability to deal with an economic crisis such as the GFC or serious recession. Borrowing and heavy levels of debt reduce our capacity to increase borrowing and lower the government’s cash reserves available in a ‘fighting fund’.
- *Increasing debt is unsustainable and a burden on future generations.* Ongoing large budget deficits are unsustainable. Eventually they will need to be covered by higher taxes and/or lower government outlays that detrimentally impact on the living standards of future generations.

4.5.3 Budget surpluses and how they might be used

A **budget surplus** is where the total value of government revenues *exceeds* the total value of its expenses (as happened in some years prior to 2007–08 and perhaps again starting in 2019–20). Typically, a surplus occurs when the pace of economic activity is too strong causing inflationary pressures.

There are *three* main things the government can do with its budget surplus.

1. *Reduce debt.* The government could use the surplus to repay or retire its local and or overseas debts. This happened between 1996–97 and 2007–08. In the case of domestic debt, this action would cause government savings balances at the RBA to be transferred into the savings accounts of the private sector. With increased liquidity (liquidity in this sense means funds available for lending) the cost of credit (interest rates) may fall, partly offsetting the initial contractionary effects on the economy of the surplus budget.
2. *Save with the RBA.* The government’s savings balances with the RBA could be built up as a ‘fighting fund’ for a rainy day (perhaps for use during a future recession or another financial crisis) when there is a need to finance deficit budgets. This option would tend to cause money to be transferred from private sector savings into government savings. It would tend to reduce the availability of credit and put upward pressure on domestic interest rates.
3. *Add to investment balances in special savings funds.* The budget surplus may be put into special purpose, nation-building funds to benefit current and future generations of Australians. Essentially, money set aside in this way acts as seed capital (early stage finance) that is invested (e.g. in Australian and international shares, cash and infrastructure projects) to generate returns, thereby hopefully growing the government’s wealth (sovereign worth) and making funding payouts possible for important national projects. As shown in table 4.1, in March 2019 the federal government had *six* of these special savings funds managed under the umbrella of the Future Fund.

TABLE 4.1 The Australian government’s special purpose savings funds

Fund	Balance (\$b, 31 March 2019)
Future Fund	154.4
Education Investment Fund	3.9
Building Australia Fund	5.9
Medical Research Future Fund	9.6
Disability Care Australia Fund	14.2
Aboriginal and Torres Strait Islander Land and Sea Future Fund	2.0
Total	190.0

Source: © Future Fund Board of Guardians.

There are *advantages* in being able to run a *budget surplus*:

- *Can offset deficits and avoid debt.* Running budget surpluses can be used to offset budget deficits without needing to increase public sector borrowing or sovereign debt. Surpluses are sustainable and do not create a burden for future generations.
- *Create a fighting fund for bad times.* A budget surplus allows the government to build up its ‘war chest’ or ‘fighting fund’, which allows it to better deal with a severe economic crisis or slowdown in the future.
- *Protect Australia’s credit rating.* A budget surplus helps to protect our international AAA credit rating. This rating allows credit to be borrowed more cheaply in the future, freeing financial and other resources for use elsewhere in areas such as infrastructure.
- *Generates confidence.* Surpluses help to support international confidence among investors, and strengthen Australia’s external situation.

For these reasons, the *operational aim* of recent budgetary policy has been the *return to surplus* at a prudent rate over the medium-term as Australia’s economic conditions permit.

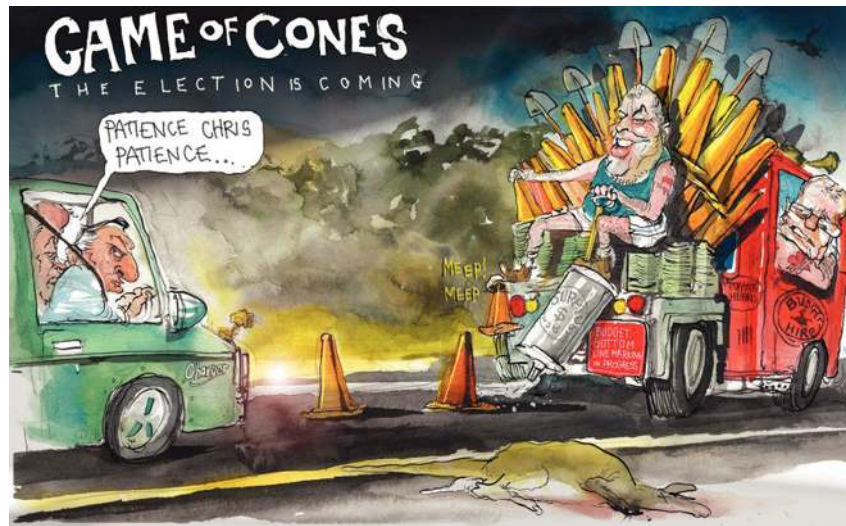
4.5.4 The impact of unexpected events on the final budget outcome

When predicting a particular budget outcome, the federal treasurer estimates the levels of receipts and outlays based on domestic and international forecasts of upcoming economic conditions. Sometimes these are either *over-optimistic* leading to a weaker *actual* outcome than expected budget outcome (e.g. a bigger actual budget deficit). At other times, they prove to be *over-pessimistic* and the *actual* outcome is better than that forecast on Budget night (e.g. a smaller actual deficit).

These key forecasts for the year ahead include the following:

- *The forecast rate of growth in Australia’s GDP.* If the forecast growth rate is faster than what actually eventuates, the value of tax receipts collected from households and companies will be lower due to a slower rise in incomes and profits. In addition, welfare outlays for the unemployed are likely to end up higher, weakening the final budget outcome.
- *The forecast global rate of economic growth.* Global rates of economic growth, especially among our trading partners such as China, greatly impact on budget revenues because it affects the demand for our exports, the terms of trade and hence the value of Australian exports sold. This can either raise or lower the profits made by companies and the level of company tax paid and budget receipts collected.
- *The forecast wages growth.* The growth in household wages affects the amount of income tax collected. For instance, a slower than forecast growth in wages will reduce the revenue collected.
- *The forecast unemployment and participation rates.* Unemployment and participation rates affect revenue from both personal income tax, as well as outlays on welfare. For example, if the forecast unemployment rate is lower than the actual rate, tax revenues will be lower and outlays higher, perhaps generating a bigger budget deficit than that anticipated.
- *The forecast level of commodity prices and terms of trade.* What happens to the level of commodity prices and Australia’s terms of trade, greatly affect tax receipts as well as welfare outlays. Weaker terms of trade (perhaps lower export prices for iron ore, coal, wool and wheat, relative to import prices) than that forecast, reduces company tax collections. In addition, when the world pays us lower prices for our exports relative to those we pay for imports, this reduces the value of net exports or injections of spending. In turn, this tends to cause a slower growth in GDP where firms cut their demand for resources leading to a rise in the number of people on unemployment and welfare benefits.
- *Unexpected changes in household confidence.* An unforeseen reduction in *consumer confidence* would tend to lower the level of C spending. This would reduce the actual level of receipts from sales and excise taxes, as well as tending to drive up budget outlays on welfare.
- *Unforeseen disasters.* Unexpected *natural disasters* including drought, cyclones and floods slow the growth rate in Australia’s GDP. In turn, these events lessen tax receipts and increase government outlays on repairs to infrastructure and welfare support.
- *Political obstacles and numbers in the parliament.* Recent governments have sometimes experienced *political obstacles* associated with passing aspects of the budget through the Senate because they

lacked the numbers. This meant that discretionary rises in receipts and/or cuts in budget outlays were delayed or rejected, weakening the budget's bottom line.



Source: David Rowe.

Some of the domestic and international assumptions behind the 2019–20 budget are shown in table 4.2.

TABLE 4.2 Forecasts and assumptions behind the federal government's forecast budget surplus of \$7.1B, 2019–20 (data shows the percentage change on previous year)

	Outcomes (b)	Forecasts		
Part A — Domestic economy forecasts*	2017–18	2018–19	2019–20	2020–21
Real gross domestic product	2.8	$2\frac{1}{4}$	$2\frac{3}{4}$	$2\frac{3}{4}$
Household consumption	2.8	$2\frac{1}{4}$	$2\frac{3}{4}$	3
Dwelling investment	0.2	$\frac{1}{2}$	–7	–4
Total business investment (c)	6.0	1	5	$4\frac{1}{2}$
By industry				
Mining investment	–4.1	$-10\frac{1}{2}$	4	$4\frac{1}{2}$
Non-mining investment	9.7	$4\frac{1}{2}$	$5\frac{1}{2}$	$4\frac{1}{2}$
Private final demand (c)	3.0	$1\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{3}{4}$
Public final demand (c)	4.5	$5\frac{1}{2}$	$3\frac{1}{4}$	3
Change in inventories (d)	0.0	0	0	0
Gross national expenditure	3.4	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{3}{4}$
Exports of goods and services	4.1	$3\frac{1}{2}$	4	$1\frac{1}{2}$
Imports of goods and services	7.1	$1\frac{1}{2}$	3	$2\frac{1}{2}$
Net exports (d)	–0.6	$\frac{1}{2}$	$\frac{1}{4}$	$-\frac{1}{4}$
Nominal gross domestic product	4.7	5	$3\frac{1}{4}$	$3\frac{3}{4}$

(continued)

TABLE 4.2 Forecasts and assumptions behind the federal government's forecast budget surplus of \$7.1B, 2019–20 (data shows the percentage change on previous year) (*continued*)

	Outcomes (b)	Forecasts		
Part A — Domestic economy forecasts*	2017–18	2018–19	2019–20	2020–21
Prices and wages				
Consumer price index	2.1	$1\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{1}{2}$
Wage price index (f)	2.1	$2\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{1}{4}$
GDP deflator	1.8	$2\frac{1}{2}$	$\frac{1}{2}$	1
Labour market				
Participation rate (per cent) (g)	65.6	$65\frac{1}{2}$	$65\frac{1}{2}$	$65\frac{1}{2}$
Employment (f)	2.7	2	$1\frac{1}{4}$	$1\frac{3}{4}$
Unemployment rate (per cent) (g)	5.4	5	5	5
Balance of payments				
Terms of trade (h)	1.9	4	$-5\frac{1}{4}$	$-4\frac{3}{4}$
Current account balance (per cent of GDP)	-2.8	$-1\frac{3}{4}$	$-2\frac{3}{4}$	$-3\frac{3}{4}$
Part B— International GDP forecasts (i)	Outcomes	Forecasts		
	2018	2019	2020	2021
China	6.6	6	6	$5\frac{3}{4}$
India	7.3	$7\frac{1}{2}$	$7\frac{3}{4}$	$7\frac{3}{4}$
Japan	0.8	1	$\frac{3}{4}$	$\frac{3}{4}$
United States	3.0	$2\frac{1}{4}$	2	$1\frac{3}{4}$
Euro area	1.8	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Other East Asia (j)	4.3	$4\frac{1}{4}$	$4\frac{1}{4}$	$4\frac{1}{4}$
Major trading partners (k)	4.2	4	4	4
World (k)	3.7	$3\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$

*Note: Estimates as at the time of the April 2019 budget prior to the completion of the 2018–19 financial year and before the mid-year updates in December 2019. (b) Calculated using original data unless otherwise indicated. (c) Excluding second-hand asset sales from the public sector to the private sector. (d) Percentage point contribution to growth in GDP. (e) Through-the-year growth rate to the June quarter. (f) Seasonally adjusted, through-the-year growth rate to the June quarter. (g) Seasonally adjusted rate for the June quarter. (h) The forecasts are underpinned by price assumptions for key commodities: Iron ore spot price falling over the year to reach US\$55 per tonne free-on-board (FOB) by the end of the March quarter 2020; metallurgical coal spot price falling over the year to reach US\$150 per tonne FOB by the end of the March quarter 2020; and the thermal coal spot price remaining at US\$91 per tonne FOB. (i) World and other East Asia growth rates are calculated using GDP weights based on purchasing power parity (PPP), while growth rates for major trading partners are calculated using goods export trade weights. (j) Other East Asia comprises the Association of Southeast Asian Nations group of five (ASEAN-5), comprising Indonesia, Malaysia, the Philippines, Thailand and Vietnam, along with Hong Kong, South Korea, Singapore and Taiwan. (k) These growth rates are estimates in 2018 rather than outcomes.

Note also: The forecasts for the domestic economy are based on several technical assumptions. The exchange rate is assumed to remain around its recent average level – a trade-weighted index of around 61 and a US\$ exchange rate of around 71 US cents. Interest rates are assumed to move broadly in line with market expectations. World oil prices (Malaysian Tapis) are assumed to remain around US\$67 per barrel. Population growth is assumed to average around 1.7 per cent per year over the forecast period.

Source: © Commonwealth of Australia 2019.

4.5.5 The budget outcome, its operational goal and the relationship with government debt

It is vital for the federal government to manage Australia's finances carefully and maintain a sustainable budgetary position in the long term. Having the right **fiscal balance** includes avoiding high levels of sovereign or *government debt* caused by budget outlays consistently exceeding budget receipts in the medium and long terms. The economic woes experienced in some European countries (Greece, Italy, Spain, Cyprus) are all examples of what might happen if the government continually runs bigger budget deficits than surpluses. By contrast, running budget surpluses gives the option of reducing the burdens and risks of high debt levels.

Recent federal treasurers have consistently restated that the *operational goal* of the budget is to '*achieve budget surpluses, on average, over the medium term*'. This requires that the total value of budget receipts are more than sufficient to meet budget outlays. A surplus over the medium term would help to avoid an overall rise in public sector debt or borrowing, thereby making the budget's position sustainable, without adding to the net debt burden for future generations. However, a return to surplus in our current situation (where economic activity is weaker and below trend) requires the treasurer to adopt a balanced and prudent pathway. It cannot happen overnight, and may take some years so that economic growth and jobs do not suffer as a result of undue budget tightening. In addition, sometimes deficits (called structural deficits) won't go away naturally when the economy recovers. In such cases, returning to surplus might require a rebalancing of the budget with deliberate but unpopular discretionary rises in receipts and/or cuts in outlays.

4.5.6 Understanding figures showing the budget outcome

During the late 1990s, a change was made to how *budget outcomes* were calculated and reported. This involved using not just the traditional cash accounting system, but also the accrual approach (as used by many business firms). The *cash approach* reports the value of budget receipts and outlays only when the government actually receives or pays out cash, whereas the *accrual system* shows expenses as they are incurred and revenues as they are earned. One reason for this shift in reporting was the acceptance in 1996 of the Charter of Budget Honesty. This was designed to make the government more accountable and its actual fiscal position more transparent. For example, it now becomes easier to determine the extent to which current budget expenses are being paid for by current revenue (as opposed to increases in borrowing or debt). Nowadays, the reporting system for the budget includes the *three* following measures:

1. *headline* balance
2. *underlying* balance
3. *fiscal* balance.

Recent changes in these indicators of the federal government's budgetary position are shown in table 4.3.

TABLE 4.3 Changes in the federal government's budget outcome using different measures (2 April 2019)

	Actual		Estimates	Projections			
	2017–18 \$b	2018–19 \$b	2019–20 \$b	2020–21 \$b	2021–22 \$b	2022–23 \$b	Total (a) \$b
Receipts	446.9	485.2	505.5	522.3	551.0	566.9	2145.7
Per cent of GDP	24.2	25.0	25.2	25.1	25.4	25.0	
Payments (b)	452.7	482.7	493.3	511.3	533.2	557.7	2095.6
Per cent of GDP	24.5	24.9	24.6	24.6	24.5	24.5	
Net Future Fund earnings (c)	4.3	6.6	5.1	na	na	na	5.1

(continued)

TABLE 4.3 Changes in the federal government's budget outcome using different measures (2 April 2019)
(continued)

	Actual		Estimates	Projections			
	2017–18 \$b	2018–19 \$b	2019–20 \$b	2020–21 \$b	2021–22 \$b	2022–23 \$b	Total (a) \$b
Underlying cash balance (d)	–10.1	–4.2	7.1	11.0	17.8	9.2	45.0
Per cent of GDP	–0.5	–0.2	0.4	0.5	0.8	0.4	
Revenue	456.3	495.8	513.8	534.3	564.7	580.5	2193.2
Per cent of GDP	24.7	25.6	25.6	25.7	26.0	25.6	
Expenses	460.3	487.3	500.9	516.1	535.9	559.9	2112.8
Per cent of GDP	24.9	25.1	25.0	24.8	24.7	24.6	
Net operating balance	–4.0	8.5	12.9	18.2	28.8	20.6	80.4
Per cent of GDP	–0.2	0.4	0.6	0.9	1.3	0.9	
Net capital investment	1.3	6.5	4.7	7.7	9.7	10.8	33.0
Fiscal balance	–5.3	2.0	8.1	10.4	19.1	9.8	47.5
Per cent of GDP	–0.3	0.1	0.4	0.5	0.9	0.4	
<i>Memorandum items:</i>							
Net Future Fund earnings (c)	4.3	6.6	5.1	5.2	5.6	6.2	22.2
Headline cash balance	–25.9	–12.7	–4.4	–0.5	7.9	2.5	5.6

Notes: (a) Total is equal to the sum of amounts from 2019–20 to 2022–23. (b) Equivalent to cash payments for operating activities, purchases of non-financial assets and net acquisition of assets under finance leases. (c) Under the Future Fund Act 2006, net Future Fund earnings will be available to meet the Australian Government's superannuation liability in 2020–21. From this time, the underlying cash balance includes expected net Future Fund earnings. (d) Excludes expected net Future Fund earnings before 2020–21.

Source: © Commonwealth of Australia 2019.

What are the main *differences* between these three measures?

1. The budget's headline balance

The budget's **headline balance** (whether it is *positive* or *negative* overall) represents the difference between cash outlays and cash revenues from all sources. Often this figure makes the budget outcome look more impressive than it actually is, because it *adds* the anticipated value of one-off events such as asset sales (such as from the privatisation of Qantas, the Commonwealth Bank and Telstra) and debt repayments received from other governments. However, this figure is not very useful when trying to determine the impact of the budget on the level of government borrowing or national savings.

2. The budget's underlying balance

The budget's underlying balance uses the figures for the headline balance but then *subtracts* the value of volatile, one-off items such as those from asset sales, special loans to state governments or debt repayments by other governments. The **underlying budget outcome** more clearly reflects the government's real financial position, with less scope for political distortion. This is a very useful measure of the budget's

stance because it tells us how much cash is currently being drained out of, or pumped back into, the economy. The underlying cash balance can also be used to determine whether the government overall is running down or adding to national savings and debt.

3. The fiscal outcome

Like the underlying balance, the *fiscal balance* is also quite a useful indicator of the government's financial position. However, the difference between the two measures is that the fiscal balance is arrived at through the *accrual approach*. The two indicators provide similar results but they are not identical. One reason for this is that the fiscal balance takes into account the impact of various financial transactions, even where these are deferred and there is *no immediate* transfer of cash.

When there is a *positive* fiscal balance or surplus, the existence of government savings means there are sufficient funds available to finance government activities without adding to foreign borrowing or worsening the CAD. However, a *negative* fiscal balance means there is a shortfall in savings that puts upward pressure on the CAD through increases in our overseas debt and income payments abroad.

Over the duration of a *business cycle* (i.e. the medium term), the government aims to have fiscal balance by running surpluses during booms that are more than sufficient to pay for deficits that occur in recessions. As a result, there should theoretically be zero impact on the levels of private sector savings and government debt over the long term. By adding to national savings, surplus budgets not only solve the problem of *crowding out* (where government borrowing to finance deficit budgets puts upward pressure on interest rates and discourages private sector spending), but encourages *crowding in* (where private sector investors are enticed by lower domestic interest rates).



Resources



Weblinks Ways that governments reduce federal debt
Deficits & debts

4.5 ACTIVITIES

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Check your understanding

1. What is meant by the term *budget outcome*?
2. What are the three main *types* of budget outcome?
3. How is a budget deficit financed?
4. How might a budget surplus be used?

Applied economic exercises

1. (a) Distinguish the following pairs of terms:
 - i. A budget deficit and a budget surplus **(2 marks)**
 - ii. A headline budget deficit and an underlying budget deficit. **(2 marks)**
- (b) Assume the government runs a budget deficit of \$20 billion. Identify and outline the various *options* available to the government for financing this deficit. **(3 marks)**
- (c) Identify *two* important economic problems associated with running budget *deficits* in the long term. **(2 marks)**
- (d) Identify *two* important advantages of reducing the deficit and returning to budget surplus as soon as possible. **(2 marks)**
- (e) What is the *medium-term operational goal* of budgetary policy? **(2 marks)**
2. The Australian government has attempted to reduce its budget deficit in recent years to 2018–19. Outline *two* key options available that could be used to reduce the size of the budget deficit, assuming this was the main priority.
3. Other things being equal, outline how any *four* of the following events would be likely to affect the *actual outcome* of the Australian government's budget. **(4 marks)**

- (i) A rise in domestic consumer and business confidence
- (ii) The slower rate of economic growth in China
- (iii) A rise in the unemployment rate from 5.0 per cent to 6.4 per cent
- (iv) Increased tax evasion by multinational corporations operating in Australia
- (v) An acceleration of wages growth
- (vi) An ageing population with a declining proportion of people of working age
- (vii) A reduction in the level of government debt
- (viii) Cuts in rates of PAYG tax on personal incomes to compensate individuals for the effects of 'bracket creep' (where generally rising incomes over a period of time cause most people to move into higher tax brackets)
- (ix) The increased commitment of defence personnel for overseas peacekeeping and anti-terror operations
- (x) A serious flu epidemic spreading
- (xi) The unexpected return of favourable climatic conditions
- (xii) A tightening of rules relating to welfare access

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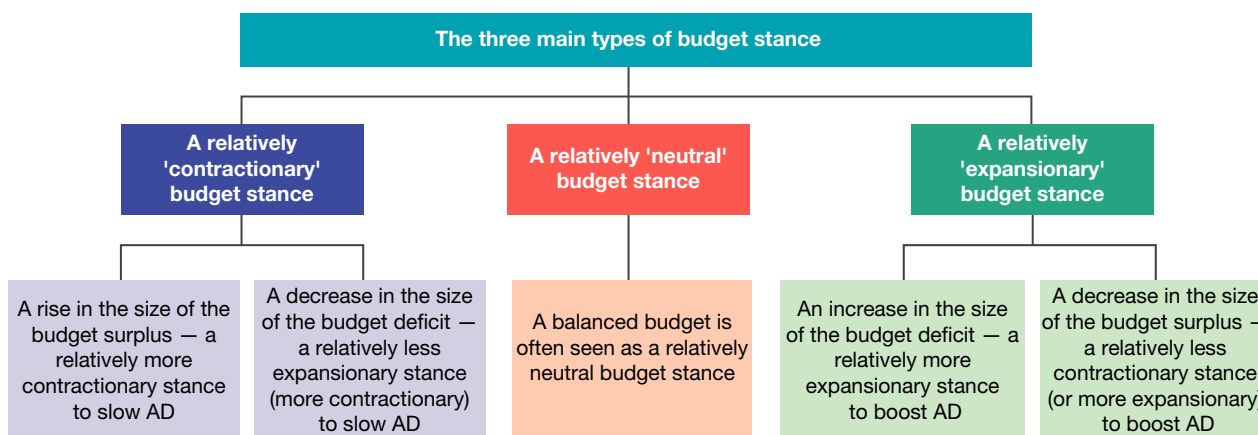
4.6 The stance of budgetary policy — is it expansionary or contractionary?

KEY CONCEPT

- the stance of budgetary policy: expansionary or contractionary

The *budget outcome* is the difference between the values of government revenue (money taken out of the economy) and expenses (money injected into the economy). This outcome can involve a budget deficit or surplus, and is often used as a *rough guide* to the *budget's stance* being adopted by the treasurer. Here the term **budget stance** relates to the intended macroeconomic impact of the budget outcome on the direction of AD ($C + I + G + X - M$) and whether an expansionary or contractionary stance has been adopted. The three main stances for budgetary policy are summarised in figure 4.6.

FIGURE 4.6 Overview of budget outcomes



4.6.1 Using the size of the deficit or surplus to help decide the budget's stance

One way to roughly decide whether the budget's stance is relatively expansionary or contractionary is to check out the absolute *size* of the budget deficit or surplus (measured in terms of the number of dollars):

- A *relatively expansionary budgetary or fiscal policy stance*. Budgets that seek to *stimulate AD* and economic activity (because there is a slowdown in the economy) are said to be relatively **expansionary budgets**. They typically include reductions in receipts and/or rises in outlays. Hence, expansionary budgets generally involve *either* one of the following:
 - an increase in the size of the budget *deficit* against the previous year (such as a rise in the deficit from \$30 billion to \$50 billion)
 - a cut in the size of the budget *surplus* against the previous year (such as a decrease in the surplus from \$20 billion to \$5 billion).
- A *relatively contractionary budgetary or fiscal policy stance*. Budgets that seek to *slow AD* and economic activity (because there is an inflationary threat), are said to be relatively **contractionary budgets**. They typically include rises in revenue relative to expenses. Therefore, *contractionary budgets* generally involve *either* one of the following:
 - a reduction in the size of the budget *deficit* against the previous year (such as a cut in the deficit from \$30 billion to \$10 billion)
 - a rise in the size of the budget *surplus* against the previous year (such as a rise in the surplus from \$10 billion to \$20 billion).

4.6.2 Some other considerations in deciding the budget's stance

While looking at variations in the absolute size of the budget deficit or surplus (in billions of dollars) is often used as a *rough guide* to the *direction* of the budgetary policy's stance, on its own, this measure can be misleading and hence to be sure, more information is needed.

Is the changed budget outcome the result of automatic or discretionary stabilisers?

Having additional information can help us to more accurately determine whether the change in the budget outcome between one year and the next is likely to be expansionary or contractionary. For instance, it would also be handy to know whether the change in the overall size of the budget deficit or surplus between one year and the next has occurred mostly because of *automatic changes* (that are caused by rises and falls in the level of economic activity) and/or because of *discretionary changes* (caused by deliberate changes in policy by the treasurer) in the value of receipts relative to outlays. We will look at these two types of budgetary stabilisers in more detail shortly; but for now, try to understand that the size of the *discretionary* deficit or surplus can provide a clue to the federal treasurer's *true intentions*. It allows us to more clearly see whether the budget stance is *deliberately* seeking to have an expansionary or contractionary impact on AD and economic activity.

For instance, imagine there was a *rise* in the size of the budget deficit (measured in dollar terms) in a particular year, in response to *weaker economic activity*. We may be tempted to conclude that the budget has become *more expansionary* and is adding extra *stimulus* to AD. While this is probably true, an often better guide in this situation is to see whether there has been a rise in the size of the structural or *discretionary budget deficit* (as opposed to a rise in the deficit due to the operation of *automatic* changes or stabilisers). In this case, if there was an increase in the *discretionary budget deficit* (due to deliberate reductions in tax rates and/or higher outlays), it could confirm the treasurer's *intentions* and whether it was felt that *additional stimulus* (over and above the cyclical deficit) was needed to lift total spending and production, and lower unemployment.

Comparing the budget outcome against the changing size of the economy

The changing size of the economy is another limitation to just using the change in the absolute size of the budget deficit or surplus between one year and the next as a guide to the budget's stance.

A deficit of \$30 billion in a small economy will have a more expansionary effect than the same sized deficit in a larger economy. To help overcome this problem, the budget outcome (along with receipts and outlays) is often expressed as a ratio or *proportion* of GDP or the size of the economy. For example, the budget deficit in 2017–18 equaled 0.5 per cent of GDP while that for 2018–19 was smaller at just 0.2 per cent, suggesting a less expansionary stance (or put another way, a mildly contractionary stance).

on Resources

 **Weblinks** Expansionary fiscal policy
How government uses fiscal policy to influence the economy

4.6 ACTIVITIES

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Check your understanding

1. What is a contractionary budget stance? When would this be used?
2. What is an expansionary budget stance? When would this be used?
3. How would you determine whether the budget stance is expansionary or contractionary?

Applied economic exercises

1. (a) Distinguish between an expansionary budget stance and contractionary stance. **(2 marks)**
(b) Examine table 4.4 showing changes in the Australian government's underlying budget outcome.

TABLE 4.4 The Australian government's underlying budget outcome

Year	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Federal government underlying budget outcome (\$ billions)	19.7	–27.0	–54.5	–47.5	–43.4	–18.3	–48.5
Federal government underlying budget outcome (percentage of GDP)	1.7	–2.2	–4.2	–3.4	–2.9	–1.2	–3.0
Year	2014–15	2015–16	2016–17	2017–18	*2018–19	*2019–20*	2020–21
Federal government underlying budget outcome (\$ billions)	–37.9	–39.6	–33.2	–10.1	–4.1	7.1	
Federal government underlying budget outcome (percentage of GDP)	–2.3	–2.4	–1.9	–0.5	–0.2	0.4	

*Note: Budget estimates as at April 2019. However, these may also be affected by policy and other changes following the federal election in May 2019.

Source: © Commonwealth of Australia 2019.

Giving reasons and quoting data from the table, describe the *change* in the *budgetary policy stance* adopted between each of the following periods:

- i. the change in 2012–13 against 2011–12 **(1 mark)**
- ii. the actual and forecast changes during 2017–18–19–20 against the outcome for 2016–17. **(1 mark)**

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4.7 The roles of automatic and discretionary stabilisers in affecting the budget's outcome and stance, and the impact on the level of government debt

KEY CONCEPTS

- the role of automatic stabilisers (cyclical component of the budget) in influencing aggregate demand and stabilising the business cycle
- the role of discretionary stabilisers (structural component of the budget) in influencing aggregate demand and stabilising the business cycle
- the effect of automatic and discretionary changes in the budget on the budget outcome and government (public) debt

Budgetary policy is an important macroeconomic or aggregate demand policy. During an economic *slowdown* when GDP growth is below trend, unemployment is high and inflation is low, governments often use *expansionary* aggregate demand budgetary policies designed to boost spending and activity.

One of the functions of the Australian government is to regulate or *stabilise* the level of AD and hence economic activity, thereby helping to create conditions optimal for the achievement of key domestic macroeconomic goals and living standards. As an aggregate demand strategy, budgetary policy is one way of regulating spending, so as to help reduce the severity of booms and recessions that are typical of the normal business cycle.

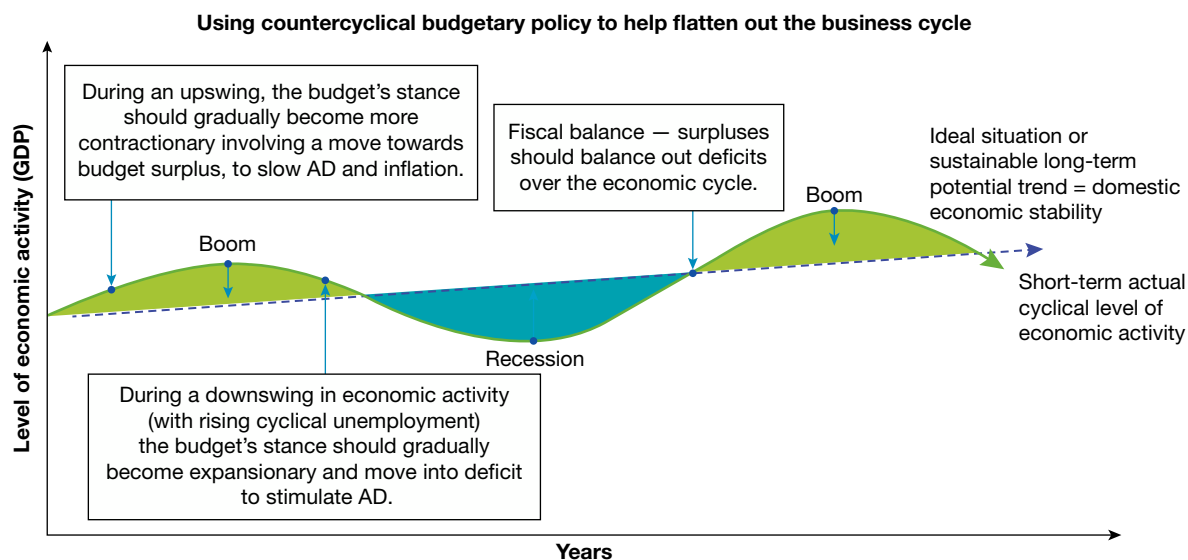
To moderate instability and the business cycle, a **countercyclical budgetary policy** application is required and is illustrated in figure 4.8. This means that:

- in a *slowdown* (where there is weaker growth and higher unemployment), the budget typically becomes progressively more *expansionary* to boost AD
- during a strong inflationary *upswing* in economic activity, the budget typically becomes more *contractionary* to slow the growth in AD to a sustainable rate.

FIGURE 4.7 As seen in Australia, this economic stimulus typically involves budget deficits. However, a downside of deficits is that the level of government debt can rise, increasing the burden on future generations.



FIGURE 4.8 How expansionary and contractionary budgetary policy works as a countercyclical stabiliser of AD and economic activity

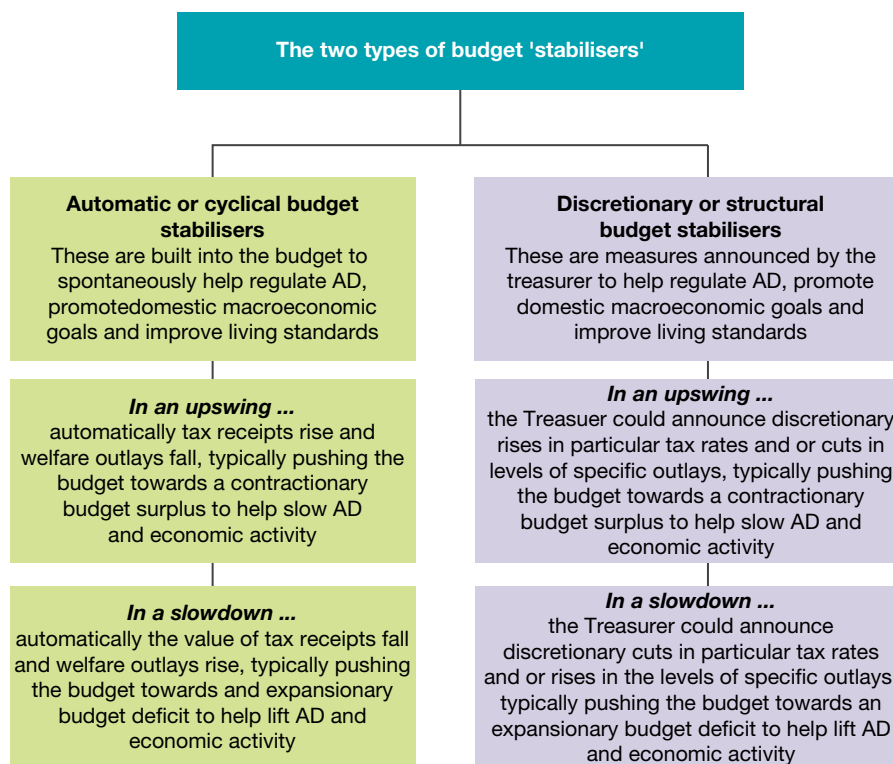


For the budget outcome to become either *more expansionary* (with bigger deficits or smaller surpluses) or *more contractionary* (with smaller deficits or bigger surpluses) in this way, it must rely on *two* types of stabilisers:

- *automatic stabilisers* (also called cyclical stabilisers)
- *discretionary stabilisers* (also called structural stabilisers).

These two stabilisers in the budget are summarised in figure 4.9.

FIGURE 4.9 The two types of stabilisers used in budgetary policy as an aggregate demand policy measure.



By changing the value of budget receipts relative to outlays, these two stabilisers can especially affect the levels of household consumption spending (C), business investment spending (I), government consumption spending (G_1), government capital spending (G_2), national savings (S) and hence AD. At least in theory, fiscal or budgetary policy applied countercyclically, should be able to help *steer the economy* along the narrow but ideal pathway between boom on the one hand and recession on the other.

So how exactly do these automatic and discretionary stabilisers work?

4.7.1 The role of automatic stabilisers in influencing aggregate demand and stabilising the business cycle

Automatic stabilisers (also called *cyclical stabilisers*) are built into budget tax receipts and some government expenses. They are called automatic stabilisers because they operate spontaneously in a *countercyclical* way to boost or slow AD and economic activity, without the federal treasurer deliberately changing their level or announcing new policies. They are cleverly programmed to change as a result of the ups and downs in the level of economic activity. Operating on their own, automatic stabilisers would normally cause the budget outcome to gradually switch from a *deficit* in a slowdown, to a *surplus* in a boom and back to a deficit in the next slowdown, theoretically allowing the budget to be in *balance* over the medium to long term.

Automatic stabilisers include most types of tax receipts, such as revenues from PAYG tax, company tax, CGT, GST and excise, as well as expenses including some welfare benefits (especially those paid to the unemployed). How do these stabilisers work to help regulate private sector spending and iron out severe booms and recessions?

Using automatic stabilisers during slowing economic activity and recession

During and immediately following a *cyclical slowdown* in economic activity, or in a *recession*, the level of budget tax receipts from PAYG, company and indirect taxes, such as excise and the GST, automatically falls. This is because weaker economic activity and rising unemployment cause a drop in disposable incomes; they reduce company profits and lower sales of goods and services. In addition, higher unemployment also means that budget outlays on welfare benefits for the unemployed and other needy groups automatically rise. This combination of lower receipts and higher outlays automatically tends to grow the *cyclical budget deficit*. In turn, this tends to have an expansionary effect on household C and business I spending, thereby helping to restore domestic stability by stimulating national production and employment.

Using automatic stabilisers during rising economic activity and an inflationary upswing

During a *cyclical upswing* or recovery in the level of economic activity, or a *boom*, the value of budget receipts automatically tends to increase and some budget expenses fall. This is because increased spending and sales causing the upturn also decrease unemployment, raise incomes and grow business profits. Hence, government revenues from personal, company, capital gains and indirect taxes are boosted, while welfare payments to the unemployed are reduced (because there are fewer unemployed people). In this case, the budget cyclical budget deficit is reduced automatically and the budget outcome tends to move towards a *cyclical surplus*, gradually



withdrawing the stimulus. This helps to slow the growth in private sector C and I spending, and economic activity, to more sustainable rates.

Remarkable as it seems, automatic stabilisers work fairly quickly and efficiently, without the government having to deliberately announce or implement any new measures. In addition, given the right fiscal settings, cyclical budget deficits that are run up during a slowdown should be repaid by cyclical surpluses recorded in the recovery (at least in theory). As a result, in the medium to long term the operation of automatic stabilisers should not lead to a rise in government debt.

4.7.2 The role of discretionary stabilisers in influencing aggregate demand and stabilising the business cycle

Discretionary stabilisers (sometimes called *structural stabilisers*) in the budget can also help deliberately bring about a change in the budget outcome and be used as a stabiliser of economic activity. However, unlike automatic stabilisers, *discretionary stabilisers* depend on *deliberate* changes to the levels of budget *receipts* and *outlays* by the federal treasurer. For instance, the treasurer could alter existing *tax rates* applied to personal incomes, company profits or the goods and services tax; introduce a *brand new* tax; or *abolish* an existing tax. Alternatively, the treasurer could alter the *nature* and *levels* of government outlays on areas like welfare payments to families, education, purchases of defence equipment, foreign aid and the building of a new hospital, or announce particular national infrastructure building projects such as the National Broadband Network (NBN), the upgrade of particular highways or the building of a rail line. Discretionary changes such as these alter the *structural budget outcome*, AD (especially C, I, G1 and G2), and hence the levels of economic growth and jobs.

Discretionary measures are sometimes introduced when automatic stabilisers are not sufficiently powerful on their own to deal with a prolonged and severe recession or a really serious boom. However, unless these are removed following the crisis, they could lead to permanent budget surpluses or, far more likely, permanent structural deficits.

Using discretionary stabilisers during slowing economic activity and recession

During a *slowdown*, the federal treasurer has the option of announcing discretionary reductions in personal or company tax rates, or *rises* in spending on border security or infrastructure. These would cause the size of the *structural budget deficit* to *grow* (or the structural surplus to shrink), typically making the budget *more expansionary*. In turn, this would stimulate AD (perhaps by accelerating C, I, G1 and G2 expenditure), strengthening economic growth and jobs.

The danger with discretionary rises in budget outlays or cuts in receipts, is that they are politically difficult for the government to remove after the economy recovers. This is, especially the case if the government has a small majority or do not have the numbers in the upper house or Senate. So there is a risk that a *permanent structural budget deficit* will develop, remaining even when the need for the stimulus has passed. As a result of this bias towards expansionary budget deficits, over time government finances and debt can gradually become unsustainable and lead to severe consequences, as has happened in many countries in Europe and elsewhere. Australia is not yet in this situation, but the writing is on the wall and decisive action has been required to gradually return the budget to surplus.

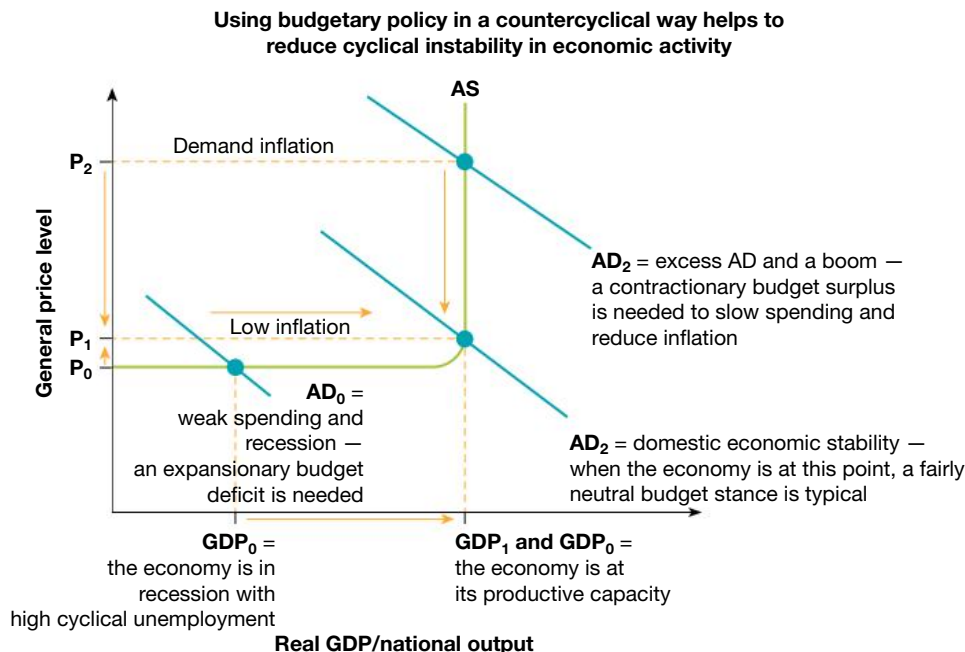
Using discretionary stabilisers during rising economic activity and an inflationary upswing

When the economy starts to recover and activity is picking up, the federal treasurer needs to gradually withdraw any remaining discretionary stimulus to avoid creating a permanent structural budget deficit. This could mean reversing the previous discretionary cuts in receipts and/or rises in outlays. However, as pointed out and seen recently in Australia, such moves are unlikely to be popular with voters or opposition parties.

4.7.3 Reviewing how automatic and discretionary stabilisers work together to affect AD

Putting automatic and discretionary budget stabilisers *together* and using the AD–AS diagram for the economy shown in figure 4.10, it is possible to see theoretically how these measures might operate in a *countercyclical* way to improve Australia’s prosperity.

FIGURE 4.10 How countercyclical budgetary policy can be used to help regulate AD and promote domestic economic stability



During a prolonged *slowdown in economic activity*, when economic growth is relatively weak and cyclical unemployment is rising, the budget stance progressively becomes *more expansionary* to boost AD (shift spending from AD_0 to AD_1) and economic activity (shift production from GDP_0 to GDP_1). In this situation, any budget surplus would quickly disappear, and there would typically be a rise in the deficit. This can happen in *two* ways.

- First, there are *automatic* reductions in tax receipts and rises in welfare outlays.
- Second, if required, there could also be *discretionary* reductions in tax receipts and rises in outlays.

As a result of these two types of *expansionary stabilisers*, the budget typically moves towards a *deficit* and the economy shifts towards domestic economic stability (moves towards AD_1 , GDP_1 and P_1) where, simultaneously, there is low inflation, strong and sustainable economic growth and full employment.

By contrast, as the economy *strengthens* and there is a fear of inflationary pressures, the budget stance gradually becomes *more contractionary* as the stimulus is withdrawn and the brakes are applied to slow AD (moving AD_2 to AD_1), economic activity and inflation (P_2 to P_1). Typically, the cyclical and possibly also the structural budget deficit will switch to become a budget surplus. Again, this can happen in *two* ways.

- First, *automatically* receipts will rise and welfare outlays fall.
- Second, any *discretionary* stimulus measures from earlier periods could be gradually withdrawn through deliberate rises in budget receipts and cuts in outlays.

Again, as a result of these two contractionary budget stabilisers, the economy shifts towards domestic economic stability (moves towards AD_1 , GDP_1 and P_1) where, simultaneously, there is low inflation, strong and sustainable economic growth and full employment.



Weblinks Fiscal & monetary policy review
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Economic activity, unemployment & fiscal policy

4.7 ACTIVITIES

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Check your understanding

1. What are *automatic stabilisers* and how do they work to help promote domestic economic stability?
2. What are *discretionary stabilisers* and how could they be used to promote domestic stability?

Applied economic exercises

1. (a) During 2017–18–19, the rate of economic growth was initially forecast to slow from 2.9 to around 2.25 per cent. Explain how *automatic stabilisers* would normally work in this situation to help promote domestic economic stability. **(4 marks)**
(b) During 2019–20, the budget forecast that the rate of economic growth would *strengthen* from 2.25 to 2.75 per cent. Explain how you would normally expect *automatic stabilisers* to work in this situation to help promote domestic economic stability. **(4 marks)**
(c) How would the recent slow growth in wages tend to affect the budget outcome and household consumption spending? **(2 marks)**
2. How should the government apply *discretionary stabilisers* during a severe *slowdown* in economic growth where unemployment has risen to 6 per cent? **(2 marks)**

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4.8 The effect of budget initiatives on the government's key domestic macroeconomic goals during the past two years

KEY CONCEPT

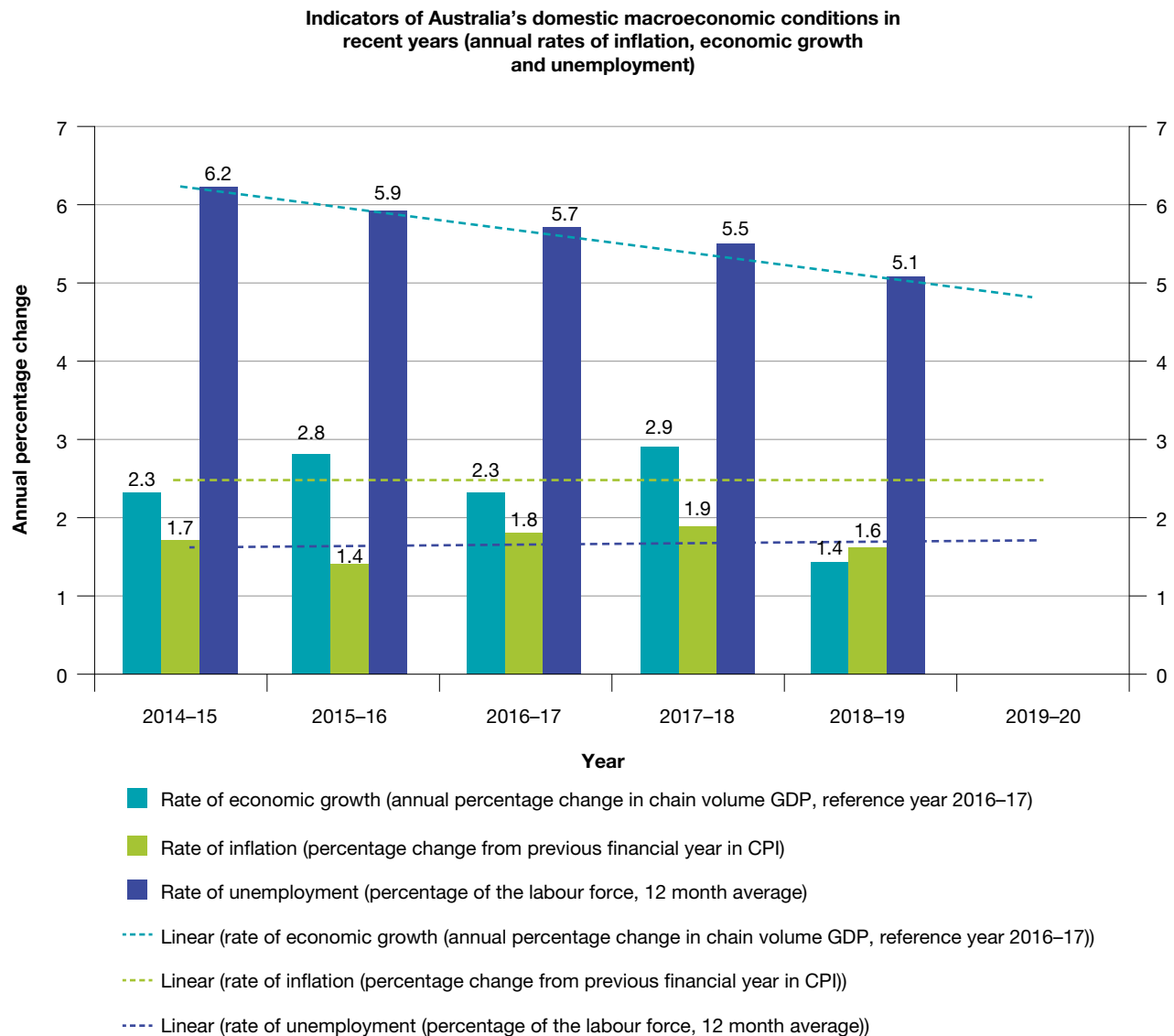
- the effect of budget initiatives from the past two years on the Australian government's domestic macroeconomic goals of strong and sustainable growth, full employment and low inflation

This section is devoted to how the Australian government's budgetary or fiscal policy has been used during the past two to three years as an aggregate demand policy instrument to help promote our three key domestic macroeconomic goals: low inflation, strong and sustainable economic growth, and full employment. The change in focus by the current VCE course means that this subtopic will need continual updating. However, it will provide you with a suitable framework by concentrating on the 2017–18, 2018–19 and 2019–20 budgets.

4.8.1 Recent trends in Australia's domestic macroeconomic conditions

Let us start with figure 4.11, which shows recent trends in Australia's *domestic macroeconomic conditions* involving the rates of economic growth, unemployment and inflation.

FIGURE 4.11 Recent trends in Australia's domestic macroeconomic conditions



Source: Australian Bureau of Statistics.

In particular, note the following developments during the two years between 2017–18 and 2018–19:

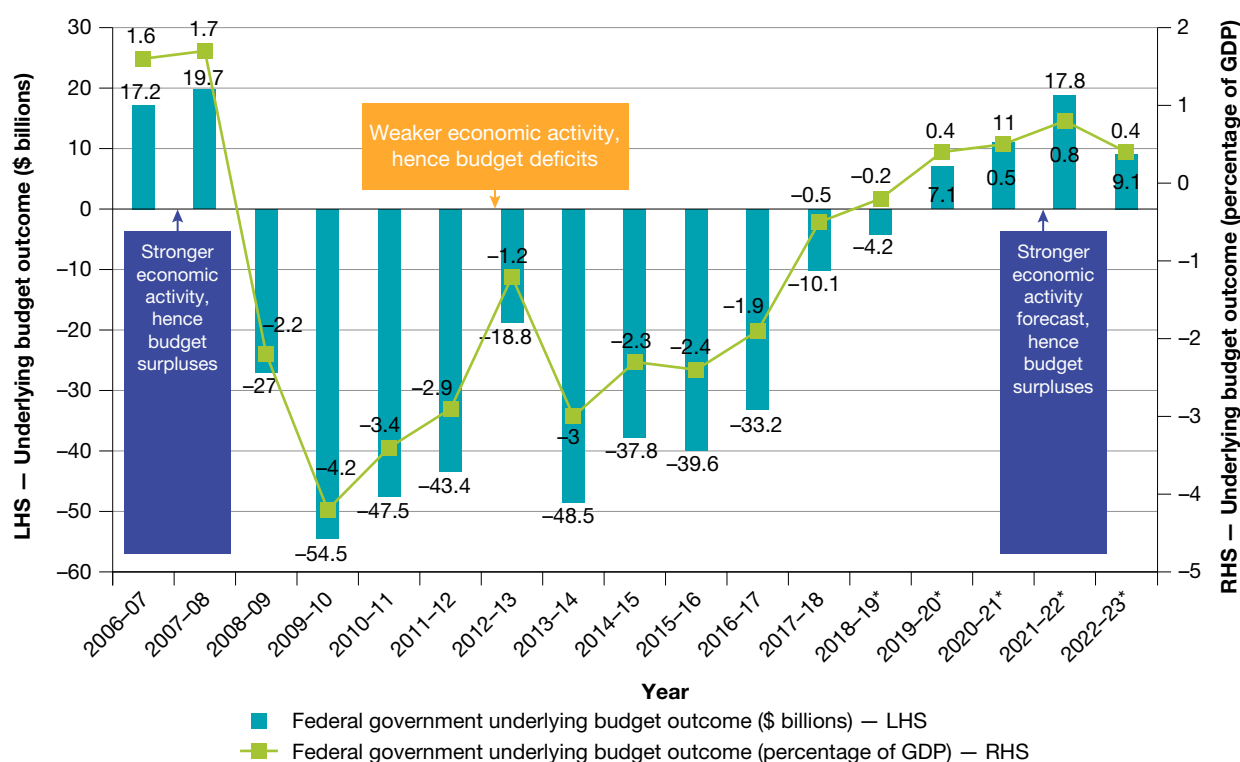
- *Economic growth slowed* to average around 2.3 per cent during the two years to 2018–19 (with 2.75 per cent forecast for the two years to 2020–21) — well below the 3 per cent government target rate.
- *Unemployment remained relatively high* averaging around 5.3 per cent for the two years to 2018–19 (with 5.0 per cent forecast for each of the two years ending 2020–21) — above the 5 per cent target rate.
- The *inflation rate slowed* to an average 1.7 per cent during the past two years to 2018–19 (with 2.25 and 2.5 per cent forecast for the next two years ending 2020–21).

Overall, these trends in the last two years are indicative of ongoing weakness in an economy operating below its productive capacity. They also seem to suggest that the Australian economy could use some ongoing fiscal stimulus to help support AD and restore domestic stability. In other words, at the very least, small cyclical budget deficits might normally be expected (rather than budget surpluses) due automatically to



weaker budget tax receipts and stronger welfare outlays. Figure 4.12 shows that indeed there were ongoing deficits during 2017–18 and 2018–19, annually averaging nearly \$7 billion or about 0.35 per cent of GDP.

FIGURE 4.12 The countercyclical change in the federal government's budget outcome to help reduce the severity of booms and recessions, 2006–07 to 2022–23



***Note:** Estimates only and may vary due to changing political and economic circumstances.

Source: Data are sourced from Australian Government Final Budget Outcomes, the Australian Bureau of Statistics ABS, the Australian Office of Financial Management and Australian Government Consolidated Financial Statements.

4.8.2 The key budget initiatives from the past two years

Despite these relatively weak recent domestic macroeconomic conditions, a decision was made some years ago to try and slowly reduce the size of the budget deficit at a responsible rate. This is illustrated in figure 4.12 and it meant that the last few budgets were overall *mildly contractionary* (or put another way, *less expansionary*), from around -1.9 per cent of GDP in 2016–17 to an estimated -0.2 per cent in 2018–19 (and projected to return to small surplus of 0.4 per cent in 2019–20 based on the budget's assumptions).

Recent federal treasurers frequently made mention of the need for **fiscal consolidation**, **budget repair** and *return to surplus* as part of the budget's medium-term operational goal. This was seen as necessary because there was growing concern over the unsustainable rise of public sector debt to a peak of around 20 per cent of GDP. In addition, some economists felt that there was a problem of *structural deficits* that may even prevent a return to budget surplus in the foreseeable future unless there were *discretionary rises in receipts* relative to outlays. Table 4.5 shows some of the key discretionary announcements designed to rein in the deficit (see the notes in red).

Although the recent reductions in the budget deficit were *less expansionary* or *mildly contractionary overall* (thereby tending to relatively slow AD, economic growth, job creation and inflation), table 4.5 also shows that there were at least some individual *discretionary* measures (see the notes in green) that in themselves, would tend to have an *expansionary* effect and thus help to achieve domestic economic stability. At least some of these discretionary actions would be likely to stimulate C, I, G_1 and G_2 and hence AD. Given the existence of spare productive capacity at this time, this sort of stimulus would not add significantly to cost or demand inflation. Here, firms would be able to collectively increase national output, thereby accelerating economic growth and lowering cyclical unemployment. In addition, some of these specific expansionary aggregate demand policy measures would tend to have beneficial aggregate supply impacts that would boost productive capacity and our potential GDP, while also slowing inflationary pressures. We will consider this aggregate supply policy channel of influence in topic 5.

TABLE 4.5 Some discretionary measures announced in the 2017–18, 2018–19 and 2019–20 budgets that may affect the structural deficit, and the levels of AD and economic activity

The initial 2017–18 forecast budget outcome = –\$18.2 billion

Announced discretionary changes in budget receipts in the 2017–18 budget

- *Medicare levy*: A proposed rise in the Medicare levy from 2.0% to 2.5% for most taxpayers to help fully fund the National Disability Insurance Scheme (NDIS) (this was later abandoned).

Likely to slow C, AD and economic activity

- *Tax incentives and assistance for home savers*: Households saving for a home loan deposit will be able to contribute up to \$15 000/year (capped at \$30 000 total) through their superannuation account at the special tax discount rate of 15%, rather than at the normal marginal tax rate. This should allow more people to reach their savings deposit target at a faster rate. In addition, tax incentives were announced for private sector investment in affordable social housing, with a discount of 60% rather than 50% on any taxable capital gains. Furthermore, foreign investor demand for housing should be eased by the limit of 50% ownership in new developments, along with a tax of \$5000/year on all future investors who fail to live in their property for six months per year. Some older Australians downsizing their home will be allowed to contribute up to \$300 000 into their superannuation fund gaining the added advantage of lower tax rates on contributions.

Likely to lift AD and economic activity

- *Company tax cuts and other assistance*: The promise to introduce the Ten-Year Enterprise Tax Plan announced in the 2016–17 budget, was again reaffirmed. If it had been successful in the Senate, there would be phased-in reductions in company tax rates for all businesses starting in 2023–24, to arrive at the tax rate of 25% by 2026–27, along with the previously announced reduction in the tax rate to 27.5% for small to medium-sized companies starting July 2017 (this measure was later rejected and scaled back to gain Senate approval). In addition, there is to be an extension of the \$20 000 instant tax write-offs for capital items purchased by small to medium-sized firms with an annual turnover of less than \$10M.

Likely to lift I, AD and economic activity

- *Bank Levy*: A big Bank Tax Levy was announced of 0.06%. This should raise \$1.6B per year.

Likely to slow I, C, AD and economic activity

(continued)

TABLE 4.5 Some discretionary measures announced in the 2017–18, 2018–19 and 2019–20 budgets that may affect the structural deficit, and the levels of AD and economic activity (*continued*)

The initial 2017–18 forecast budget outcome = –\$18.2 billion

- *Student fees and charges:* University fees are to rise and students to pay an additional 7.5% of their course costs, along with a lower threshold for HELP loan repayments, to help raise an extra \$2.8B over three years and reduce the \$52B in outstanding student loans.

Likely to slow C, AD and economic activity

- *Overseas workers:* A new levy on firms who bring in overseas workers on visas to fill Temporary Skills Shortages was announced costing up to \$1800/worker, as well as a levy of up to \$5000/worker for those on various Permanent Skills Visas. Together these should raise \$1.2B over four years.

Likely to have mixed effects on AD and economic activity

Announced discretionary changes in budget outlays in the 2017–18 budget

- *Infrastructure spending:* There is to be a large boost of \$20B to government investment spending involving the building of national infrastructure projects (up from the previous figure of \$50B to \$70B for the period, 2014–15 to 2019–20). This is to include funding arrangements for the Inland Rail Project from Melbourne to Brisbane (cost \$8.4B), a new western Sydney airport, work on the Snowy Mountains hydro-electricity scheme, a hospital in WA, urban and regional rail links in Victoria including duplicating the Geelong-Waurn Ponds line, highway upgrades in Victoria to the M80 Ring Road and Monash Freeway, and in Queensland, improvements to the Bruce Highway. In addition, there is the Regional Growth Fund boost of \$472M for regional infrastructure and Building Better Regions.

Likely to lift G2, I, AD and economic activity

- *Welfare changes:* There is to be a new Jobseeker Payment that consolidates and simplifies seven current income support payments. In addition, measures were announced that tighten the obligation of unemployed jobseekers to attend interviews. This is designed to increase the labour force participation rate and reduce welfare dependence.

Likely to slow C, AD and economic activity

- *Health:* The previous freeze on the Medicare Benefits Schedule will be removed. It will be allowed to rise at a total cost of \$1B over four years; along with new Pharmaceutical Benefits listings for subsidised medicines at a cost of \$1.2B over five years.

Likely to lift C, AD and economic activity

- *Education spending:* The policy of deregulating university fees announced in the 2014 budget (and retained in the 2015 and 2016 budgets) was officially abandoned. However, universities will face some funding cuts due to the assumption of a 2.5% efficiency dividend, and are expected to be more financially accountable. Schools are to receive an increase in funding of \$18.6B over the next 10 years under a proposal called *Quality Schools — true needs-based funding for Australian Schools* where the funding model is the same for all school systems (similar in some ways to the previously proposed Gonski Model under Labor).

Likely to have mixed effects on AD and economic activity

- *Outlays involving housing affordability:* Establish a \$1B National Housing Infrastructure Facility to reduce infrastructure obstacles limiting the building of new homes on various sites (e.g. new defence department land to be released). The current National Affordability Housing Agreement is to be replaced with the creation of a new National Housing and Homeless Agreement with the states. It is designed to improve housing affordability, and will gain a funding boost of \$375M.

Likely to lift G2, I, AD and economic activity

The initial 2018–19 forecast budget outcome = –\$5.2 billion

Announced discretionary changes in *budget receipts* in the 2018–19 budget

- *Personal income tax cuts* for low- and middle-income earners:
 - From 1 July, there is to be an extension of the upper cut-off for the 32.5% marginal tax rate bracket from \$87 000 to \$90 000 taxable income. This also helps to reverse the effects of bracket creep.
 - The low-middle income tax offset and upper income threshold is to be lifted to \$90 000, allowing a tax cut of up to \$530 per year.
 - There was the announcement of the Seven-year Income Tax Reform Plan to lower and simplify tax rates for most taxpayers.
 - The initially proposed rise in the Medicare levy to 2.5% was abandoned, so the levy remains at 2.0%.

Likely to lift C, AD and economic activity

- *Assistance to companies:*
 - Reaffirmation of the plan to lower the tax rate for small and medium-sized companies.
 - The announcement of continued help for small and medium-sized companies by extending the special instant tax write-off of up to \$25 000 per eligible capital item for small to medium-sized companies (i.e. those with annual turnovers of less than \$10M).

Likely to lift I, AD and economic activity

- *Excise tax:* The 40% excise tax on craft beer is to be removed.

Likely to lift C, AD and economic activity

- *The black economy:* Attempts are to be made to crack down on the illegal tobacco trade to help raise around \$3.6B over the next four years. Also, recommendations from the Black Economy Taskforce are to be implemented to bring in an estimated \$5.3B extra in tax revenue over four years from those under reporting their income.

Likely to lift to have mixed effects on AD and economic activity

Announced discretionary changes in *budget outlays* in the 2018–19 budget

- *Government spending on national infrastructure:* Increased government capital spending on infrastructure contained in the announcement of a \$75B Ten-Year Infrastructure Plan. This is an increase of around \$25B in spending for roads and rail building project to help reduce bottlenecks and business costs, especially in transport. For instance, there is \$5B for the Melbourne Airport rail link, \$1.8B for the North East road link, continued works on widening the M80 Ring Road, the Waurin Ponds rail duplication to Geelong, the Monash rail link, and works to improve the Bruce and Pacific Highways.

Likely to lift G2, I, AD and economic activity

- *Spending on technology, medical and scientific research:*
 - Over the next 12 years, the government announced an increase in investment of \$2.4B for scientific research and improving our technology capabilities required for growing a smart economy.
 - There will be \$1.9B set aside over 12 years for lifting government investment spending on research infrastructure.
 - \$26M is set aside to create an Australian Space agency.

Likely to lift G2, AD and economic activity

- *The government announced welfare measures, and support for the aged:*
 - The government's new \$1.2B Child Care Package to support child costs for lower income families will commence.
 - \$1.6B has been allocated to make 14 000 extra high-level home care support packages for the elderly, so they can live longer at home.
 - Announcement of a Pensioner Loan Scheme where applicants can boost their retirement income by up to \$17 800 per year, by borrowing against equity in their house as an asset.
 - There is to be an extra \$280M of funding to cover ongoing wage subsidies up to \$10 000 to employers taking on older, indigenous, rural and other disadvantaged Australians.
 - Extra funding of \$250M was announced for boosting the Skilling Australia Fund.
 - The waiting period for migrants to access some welfare benefits will be increased to four years starting in July 2018.

(continued)

TABLE 4.5 Some discretionary measures announced in the 2017–18, 2018–19 and 2019–20 budgets that may affect the structural deficit, and the levels of AD and economic activity (*continued*)

- A \$2000 wage subsidy will be made available for older people to update their training, skills and employment prospects, following ongoing rises in the pension age.
- \$38M is to be outlaid on ABSTUDY over the next five years.
- \$300M in government spending on disability employment services.

Likely to lift C, AD and economic activity

- *Government budget outlays on education:*
 - Previous budget commitments are proceeding, including those for the \$24.5B Quality Schools Package, with promises of further rises to \$30B in 2027.
 - Additional outlays of \$440M are directed to extending the National Partnership Agreement on Universal Access to Early Childhood Education, boosting the total for 2018 and 2019 to \$870M.

Likely to lift G2, I, AD and economic activity

The initial 2019–20 forecast budget outcome = \$7.1 billion (a surplus)

***Note: Estimates only and may vary due to changing political and economic circumstances.**

Announced discretionary changes in *budget receipts* in the 2019–20 budget

- *Personal income tax offsets* for low-middle income earners:
- From 1 July 2019, low and middle-income earners are to receive tax offsets of between \$1080 (single income earner) and up to \$2160 (dual income families).
- Further staged reductions in the marginal rates of income tax for some individuals were announced. These would be rolled out over 10 years where around 94% of taxpayers would pay a marginal rate of 30% or less by abolishing the 32.5% and 37% marginal tax rates by 2024–25 and lifting the upper thresholds of the 19% and 30% tax rates, making the personal income tax system less progressive.

Likely to lift C, AD and economic activity

- *Assistance to companies:*
 - Re-state the already scheduled reductions in the rate of company tax for small and medium-sized businesses (with an annual turnover up to \$50M) that currently pay 27.5% tax on profits. The next reduction to 26% will occur in 2020–21, ending with a further reduction to 25% for 2021–22.
 - The announcement of continued help for small and medium-sized companies by extending and increasing the special instant tax write-off of up to \$30 000 per eligible capital item for small and medium-sized companies.

Likely to lift I, AD and economic activity

- *Tax crackdown on multinationals and the wealthy:* By boosting funding for the Australian Tax Office (ATO) by around \$1B and singling out multinationals, wealthy families and trusts for closer scrutiny, an extra \$3.6B in tax revenue is anticipated.

Likely to have mixed effects on AD and economic activity

Announced discretionary changes in *budget outlays* in the 2019–20 budget

- *Government spending on national infrastructure:* There is to be an increase in government capital spending on infrastructure (especially road and rail programs), up from \$75B (2018–19) to \$100B as part of a rolling Ten-Year Infrastructure Plan. Projects to include a \$3B rise in the Urban Congestion Fund to ease road congestion and increase parking at railway stations, \$2B for a fast train service from Geelong to Melbourne, \$1.4B for upgrading unsealed country roads in Victoria, over \$2B for blackspot areas and to repair potholes, \$3.5B for the West Sydney North–South Rail Link, \$2.5B for important Queensland roads, and \$1.6B for extending the M1 Pacific Motorway.

Likely to lift G2, I, AD and economic activity

- *Export Market Development Grants:* There is an additional \$60M to lift Export Market Development Grants to help small and medium-sized businesses to develop markets abroad and sales opportunities.

Likely to lift net X, AD and economic activity

-
- *Spending on technology, medical and scientific research:* The Medical Research Fund is to get a grant of \$5B that includes \$614M in research funding for diseases and rare cancers, over \$600M for building clinics and \$220M for cardiovascular research.

Likely to lift G2, AD and economic activity

- *Health initiatives:*
 - \$7.7B spread over three years to help cover the cost of MRI scans for screening those with breast cancer.
 - \$1.4B for the period to 2022–23 to cover the costs of adding new free drugs to the Pharmaceutical Benefits Scheme.

-
- \$737B set aside for the treatment of mental health and drug abuse issues.
 - An extra \$1.3B to be spread over seven years to improve hospitals and health care.

Likely to lift G2, AD and economic activity

- *New welfare measures and support for the aged:*
 - There will be 10 000 home care packages provided for the elderly so they can stay in their own homes longer.
 - Pensioners to receive a one-off payment of \$75 for singles or \$125 for a couple to help cover the increased costs of electricity.

Likely to lift C, AD and economic activity

- *Government budget outlays on education and training:*
 - A record \$36B to be spent on education.
 - A total of 80 000 apprenticeships will be funded to help target and overcome skills shortages.
 - Employers hiring apprentices will be eligible to receive a grant of \$8000 (double the old rate) and new apprentices to each receive \$2000.
 - Establish 10 new training hubs or centres to connect young people with industries and schools in areas with high youth unemployment.
 - Funding of 1000 scholarships to encourage young people to study in regional centres.
 - \$453M to go towards expanding opportunities for 350 000 children to gain early learning.

Likely to lift G2, C, AD and economic activity

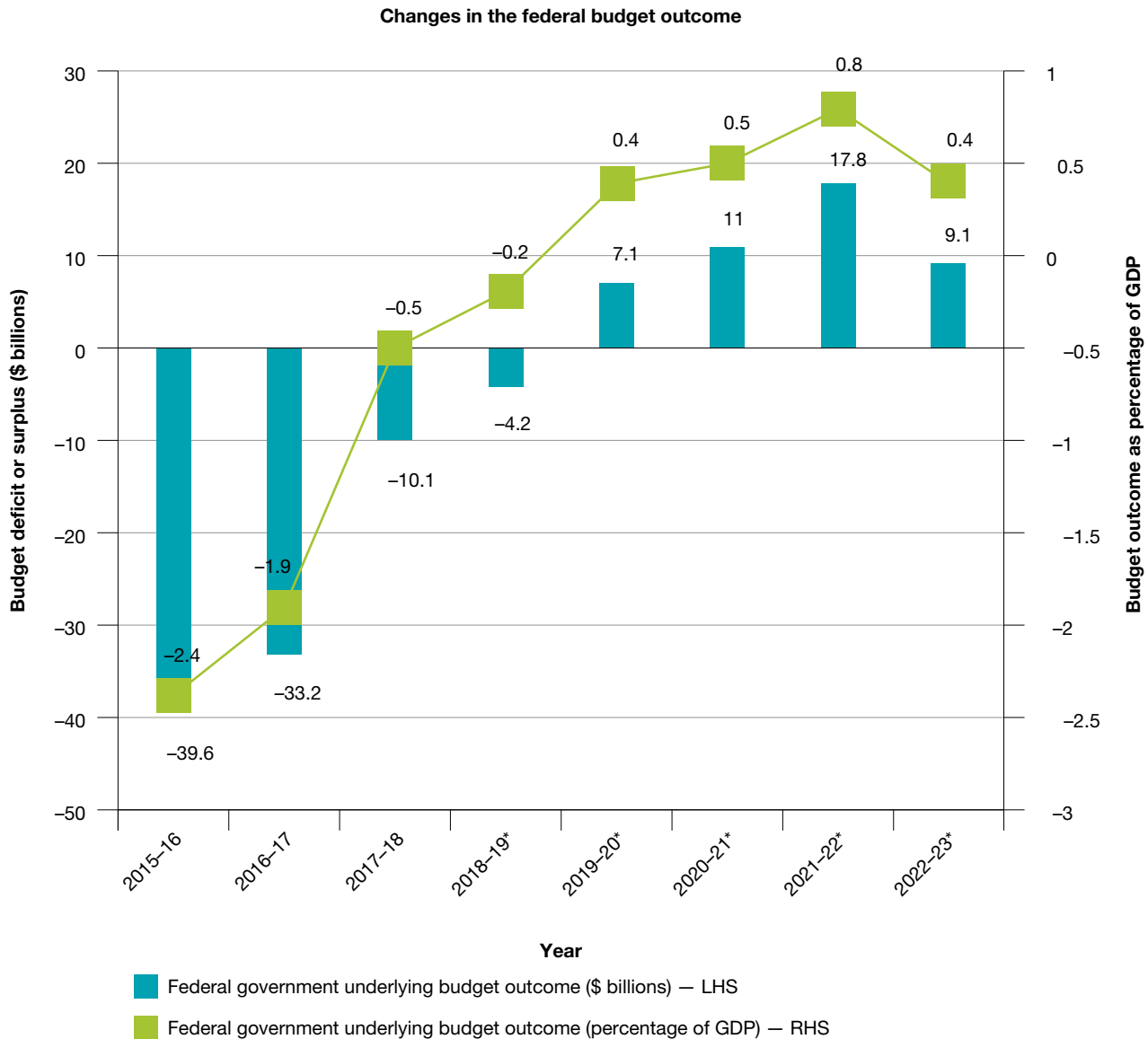
4.8.3 The effects of recent budget initiatives on domestic macroeconomic goals

We have seen that the government typically relies on a combination of *automatic and discretionary stabilisers* in the budget to help reduce the severity of booms and recessions, and promote domestic economic stability (namely, the simultaneous achievement of strong and sustainable economic growth, full employment and low inflation) and improve living standards. To work effectively, these budget stabilisers must operate in a *countercyclical* manner with an overall looser stance in downswings to stimulate AD and a tighter stance in upswings to slow AD and economic activity to a sustainable rate.

The impact of recent budgetary policy measures on Australia's domestic macroeconomic goals

In the past two years, Australia's rate of economic growth was fairly slow and below trend, rising by just 2.5 per cent a year (against the target rate of 3 per cent). While this kept inflation low, it caused cyclical unemployment to remain higher than usual. Given this recent *softness in economic activity* and significant unused productive capacity, budget *deficits* continued to provide some *stimulus* to AD and stubbornly remained, averaging 0.35 per cent of GDP. This is because *slower* cyclical rates of economic growth *automatically* caused budget receipts to rise more slowly and welfare outlays to remain relatively high. Hence, despite a desire to avoid adding further to high levels of public sector *debt*, reducing the deficit and *returning to surplus* as the *medium-term operational goal* of recent budgets (possibly in 2019–20), has taken longer than expected. This is shown in figure 4.13.

FIGURE 4.13 Australia's actual and projected path from budget deficit to budget surplus



Note: *Data are estimates or projections, as of April 2019.

Source: © Commonwealth of Australia 2019.

Additionally, cutting the deficit and returning to surplus has taken *longer* because of the Treasurer's use some *expansionary discretionary policy measures* (see table 4.5 in section 4.8.2) that deliberately slowed rises in tax receipts and increased budget outlays. Many of these stimulus measures were probably justified because of the ongoing weakness of spending and economic activity. Indeed, some argued that even bigger deficits and stimulus were needed. So instead of the budgets overall being mildly contractionary as we have seen, perhaps we might have expected them to be expansionary. This, however, was not the case because of concern over rising levels of *government debt*. In addition, as we shall see, the slow withdrawal overall of budget stimulus was substantially *offset* and made *possible* by the RBA adopting a *highly expansionary monetary policy stance* involving reductions in interest rates in 2019 designed to help accelerate AD.

So what were the top *three discretionary budgetary tax and spending initiatives* announced by the treasurer in the last two years to 2019–20 that sought to stimulate AD, accelerate the rate of economic growth and lower unemployment (without adding to inflationary pressures)?

Reductions in company tax rates and assistance to businesses

As an *aggregate demand policy initiative*, recent budgets have announced special discretionary measures designed to assist companies, boost business confidence, stimulate private investment spending (I) and accelerate AD. With more spending and falling stocks of goods, lower company tax rates should help to lift economic growth and create more jobs and employment opportunities, without adding to inflationary pressures, given unused capacity.

- *Reductions in the rates of company tax* levied on the profits made by small and medium-sized business commenced in 2015–16 and as shown in table 4.6, will continue until 2021–22. In 2019–20, these firms paid a tax rate of 27.5 per cent, but by 2021–22, this will step down first to 26 per cent and then 25 per cent, giving a much needed boost to investment spending, AD and economic activity.

TABLE 4.6 Scheduled reductions in company tax rates, 2015–16 to 2021–22

Year	Turnover threshold for small and/ or medium-sized companies	Tax rate for small and medium-sized companies	Tax rate for large companies
2015–16	\$2 million	28.5%	30%
2016–17	\$10 million	27.5%	30%
2017–18	\$25 million	27.5%	30%
2018–19	\$50 million	27.5%	30%
2020–21	\$50 million	26%	30%
2021–22	\$50 million	25%	30%

Source: © Australian Taxation Office for the Commonwealth of Australia.

- *Instant tax write-offs* (tax deductions) for small and medium-sized businesses purchasing new capital items or equipment, such as a truck, computer system or new machinery, were also implemented by the treasurer, and were designed to boost business investment spending, along with AD, GDP and employment growth. These commenced in 2017–18 at \$20 000, but have been subsequently increased to \$25 000 and more recently to \$30 000 in the 2019–20 budget.

Reductions in rates of personal income tax

- Discretionary changes to personal income tax have been announced in recent budgets as an *aggregate demand budgetary policy initiative*. Table 4.7 shows the current *three-stage plan* passed by federal parliament. These involve *reducing the tax burden* and *bracket creep* (i.e. caused by individuals moving into higher marginal tax brackets over time as their incomes rise) by lifting the various tax bracket upper income thresholds or cut-offs and re-structuring tax rates and brackets.

TABLE 4.7 Three stages in cutting personal income tax rates recently passed by the parliament

Stage 1: Covering 2018–19, 2019–20, 2020–21 and 2021–22		Stage 2: Covering 2022–23 and 2023–24		Stage 3: Covering 2024–25 onwards	
Taxable income	Tax rate	Taxable income	Tax rate	Taxable income	Tax rate
\$0 – \$18 200	Nil	\$0 to \$18 200	Nil	\$0 – \$18 200	Nil
\$18 201 – \$37 000	19% for amounts over \$18 200	\$18 201 – \$45 000	19% for amounts over \$18 200	\$18 201 – \$45 000	19% for amounts over \$18 200

(continued)

TABLE 4.7 Three stages in cutting personal income tax rates recently passed by the parliament (*continued*)

Stage 1: Covering 2018–19, 2019–20, 2020–21 and 2021–22		Stage 2: Covering 2022–23 and 2023–24		Stage 3: Covering 2024–25 onwards	
Taxable income	Tax rate	Taxable income	Tax rate	Taxable income	Tax rate
\$37 001 – \$90 000	\$3572 + 32.5% for amounts over \$37 000	\$45 001 – \$120 000	\$5092 + 32.5% for amounts over \$45 000	\$45 001 – \$200 000	\$5092 + 30% for amounts over \$45 000
\$90 001 – \$180 000	\$20 797 + 37% for amounts over \$90 000	\$120 001 – \$180 000	\$29 467 + 37% for amounts over \$120 000		
\$180 001 and over	\$54 097 + 45% for amounts over \$180 000	\$180 001 and over	\$51 666 + 45% for amounts over \$180 000	\$200 001 and over	\$51 592 + 45% for amounts over \$200 000

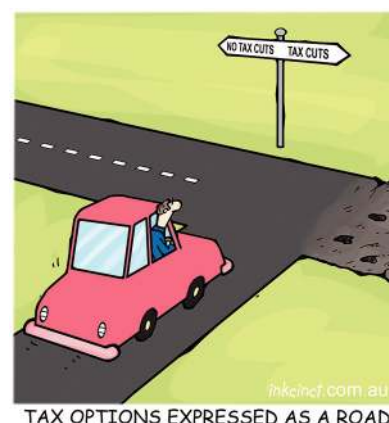
Note: Key tax changes at each stage are shown in bold.

Source: ato.gov.au/Rates/Individual-income-tax-rates

- Effectively, these changes lowered the marginal tax rate paid by many individuals and families. This should help to improve consumer confidence, increase household disposable income, accelerate consumption spending and lift AD. With more spending, unplanned reductions in stocks and rising orders, firms should be encouraged to lift their production, thus helping to boost economic growth and lower cyclical unemployment.

More specifically, policy changes have included the following:

- Starting in 2017–18, the temporary budget deficit repair levy on high-income earners introduced in 2014 was abolished, effectively returning the top marginal tax rate from 47 per cent to the previous level of 45 per cent (excluding the Medicare levy). These measures should add to spending, production and employment. In addition, effective for 2017–18, there was a widening of the 32.5 per cent marginal tax bracket from \$80 000 to \$87 000 so that middle–upper income earners would pay less tax.
- The 2018–19 budget further lifted this upper threshold for the 32.5 per cent tax bracket from a taxable income of \$87 000 to \$90 000, providing additional tax relief especially to middle-income earners.
- The 2019–20 budget announced that starting 1 July 2019, low and middle-income earners would get tax offsets of between \$1080 (single income earner) and up to \$2160 (dual income families). Further reductions in the marginal rates of income tax for some individuals were also publicised. These reforms would be rolled out in the years to 2024–25. Around 94 per cent of taxpayers would then pay a marginal tax rate of only 30 per cent or less, achieved by abolishing the 32.5 and 37 per cent marginal tax rates by 2024–25 and lifting the upper thresholds of the 19 and 30 per cent tax rates. This would make the personal income tax system less progressive but would increase disposable income, consumption spending, AD and domestic economic activity.



TAX OPTIONS EXPRESSED AS A ROAD



Increased government spending on building national infrastructure

Each of the 2017–18, 2018–19 and 2019–20 budgets announced huge increases in government *capital spending* to help improve and build *national infrastructure* projects. As an *aggregate demand budgetary policy initiative*, increasing government investment spending (G_2) helps to strengthen AD, and cause more orders and falling levels of unsold stocks of goods. Firms should then be encouraged to lift production, boosting economic growth and the employment of resources, helping to create more job opportunities and lowering unemployment.

- The 2016–17 budget announced over \$50 billion in spending over the four years to 2019–20 for road, railways, ports, airports, water and NBN infrastructure projects that helped to boost G_2 and I.
- The 2017–18 budget allocated a further \$20 billion boost to funding including that for the Inland Rail Project from Melbourne to Brisbane (cost \$8.4B), a new western Sydney airport, work on the Snowy Mountains hydro-electricity scheme 2.0, a hospital in WA, urban and regional rail links in Victoria including duplicating the Geelong-Waurn Ponds line, highway upgrades in Victoria to the M80 Ring Road and Monash Freeway, and in Queensland, improvements to the Bruce Highway. In addition, there is the Regional Growth Fund boost of \$472M for regional infrastructure and Building Better Regions. The building of such national infrastructure adds to GDP, helps to create jobs and, as we will see later, grows the economy's productive capacity
- The 2018–19 budget promised \$75 billion in government infrastructure spending on transport over the next decade as part of the Ten-Year Infrastructure Plan. This included the Melbourne Airport and North East rail links in Victoria, along with highway upgrades across many states.
- As part of a rolling Ten-Year Infrastructure Plan across Australia, the 2019–20 budget committed an additional \$25 billion, taking the total government spend to \$100 billion. This included an extra \$3 billion for the Urban Congestion Fund to help cut urban travel times and to provide for improved parking at railway stations, \$2 billion for the Geelong-Melbourne fast train project to halve the journey and \$100 million for regional airports. In addition, there is the West Sydney, North-South rail Link, extension of the M1 Pacific Motorway and \$2.6 billion for Queensland's key roads and other projects.

Figure 4.14 shows some of the Australian government's major projects under way in Victoria and new commitments in 2019–20.

Review

Despite the gradual reduction in the overall size of the budget deficit and its possible return to surplus, these *three* discretionary government spending and tax initiatives in recent budgets in particular, should have provided some much needed stimulus to AD over the last two years. As a result, it is reasonable to claim that in themselves, they helped to *promote* Australia's *three* key *domestic macroeconomic goals* and hence help to create conditions optimal for better *living standards*.

The goal of low inflation: These three key budget initiatives (lower personal and company taxes, and higher infrastructure spending) would not have jeopardised the achievement of low inflation. This is because there was significant unused productive capacity available that could easily cater for stronger spending without generating shortages and demand inflation. Besides, inflation has been below the RBA target and overall, recent budgets have been mildly contractionary by withdrawing some of the previous stimulus by further cutting the deficit.

The goal of strong and sustainable economic growth: These three budget initiatives should have helped to stimulate household consumption (C), private business investment spending (I) and government capital spending (G_2), lifting AD. More spending from these three sources, have helped to lift AD and the rate of economic growth, thereby helping to offset the mildly contractionary reductions in the overall size of the budget deficit.

The goal of full employment: By helping to stimulate AD and economic growth, these three initiatives should have helped to bring down Australia's unemployment rate to around 5 per cent, as seen over the last few years.

FIGURE 4.14 Australian government infrastructure spending in Victoria as part of the Ten-Year Infrastructure Plan to improve transport, reduce congestion and create jobs

Victoria

The Government has committed \$6.2 billion to new projects to bust congestion, improve safety and better connect towns and regions



Major projects underway

- Melbourne Airport Rail Link
\$5 billion
- Key transport links in Melbourne:
\$2.75 billion
 - North East Link
\$1.75 billion
 - Monash Freeway
\$500 million
 - M80 Ring Road
\$500 million
- Melbourne to Brisbane Inland Rail total funding
\$9.3 billion

New commitments

State allocation \$5.3 billion	Urban Congestion Fund \$396 million	Roads of Strategic Importance \$490 million
Goulburn Valley Highway, Shepparton Bypass (stage 1) \$208 million	Hume Freeway (Lithgow Street to M80 Ring Road) \$50 million	Swan Hill Bridge \$60 million
Western Highway (Final Stage of Duplication from Ararat to Stawell) additional \$360 million	Calder Freeway (Gap Road to the M80 Ring Road) \$50 million	Echuca to Robinvale \$20 million
Victorian Congestion Package, including: \$162 million • Racecourse Road, Pakenham \$70 million • Napoleon Road, Ferntree Gully \$50 million	Ballarto Road, Skye \$30 million	Ballarat to Ouyen \$10 million
Princes Highway \$300 million	Plymouth Road Improvements \$2.5 million	Melbourne to Mildura \$60 million
Geelong to Melbourne Fast Rail \$2 billion	Princes Highway Intersection Upgrades – Pakenham to Beaconsfield \$17.8 million	Toowoomba to Seymour \$160 million
South Geelong to Warrnambool Ponds Rail Upgrade (stages 2 and 3) \$700 million	McGregor Road, Pakenham \$13 million	Stawell to SA Border \$60 million
Suburban Roads Upgrades (South Eastern and Northern Roads) \$1.14 billion	Fitzsimons Lane/Main Road corridor, Eltham \$10 million	Southwest Victoria \$80 million
Wellington Road Duplication \$110 million	Thompson Road extension \$70 million	Other Roads of Strategic Importance projects \$40 million
Sealing roads in the Dandenong Ranges and surrounds \$300 million	Maroondah Highway, Coldstream \$20 million	
	Commuter car parks (Croydon, Ferntree Gully, Mitcham, Ringwood, Bentleigh, Hampton) \$68 million	
	Mornington Peninsula grade separation and duplication to Boneo Road \$65 million	

Source: © Commonwealth of Australia 2019.

on Resources

Weblink The 2016–17, 2017–18 and 2018–19 budgets

4.8 ACTIVITIES

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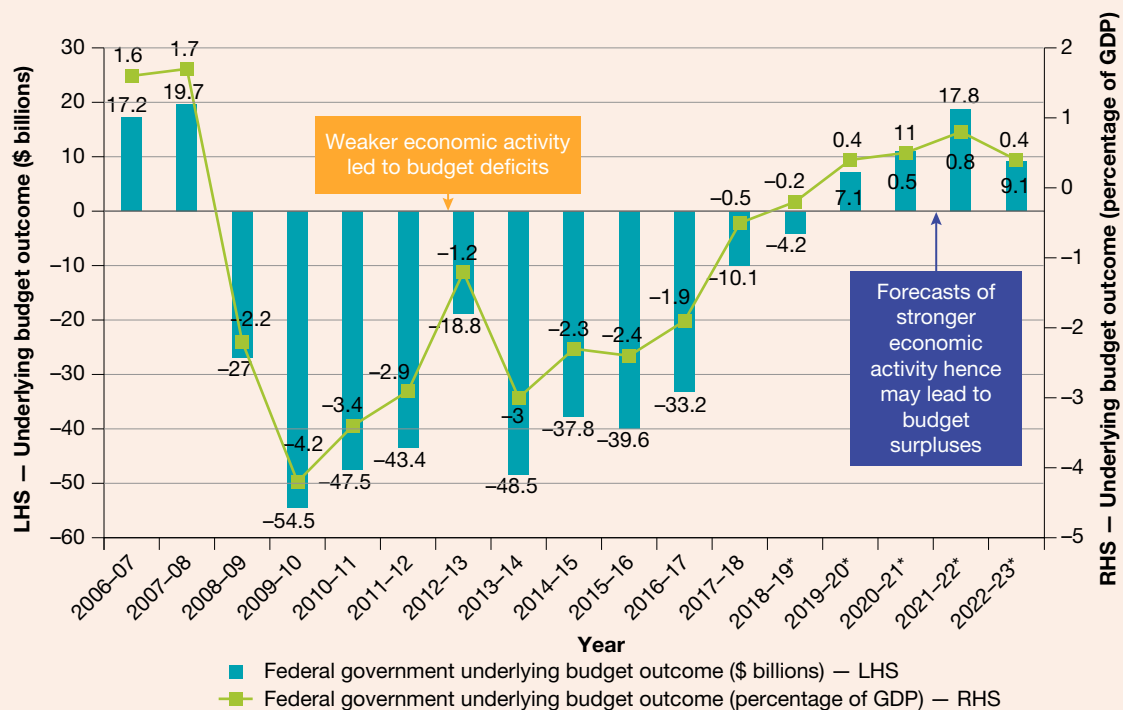
Check your understanding

1. Describe the domestic macroeconomic conditions that have recently existed in Australia.
2. Have recent budget outcomes been expansionary or contractionary? Why?
3. Identify and explain the main budget initiatives from the last two years that have been used to affect Australia's domestic macroeconomic goals.

Applied economic exercises

1. Examine figure 4.15.

FIGURE 4.15 The countercyclical change in the federal government's budget outcome to help reduce the severity of booms and recessions, 2006–07 to 2022–23



***Note:** Estimates only and may vary due to changing political and economic circumstances.

Source: Data are sourced from Australian Government Final Budget Outcomes, the Australian Bureau of Statistics, the Australian Office of Financial Management and Australian Government Consolidated Financial Statements.

- (a) Identify and explain the likely *causes* of the ongoing budget deficits in recent years (as shown in figure 4.15). **(4 marks)**
- (b) As a branch of aggregate demand policy, explain how recent budgets have helped to promote 'jobs and growth'. **(6 marks)**
- (c) How would you expect any *two* of the following discretionary budgetary measures as part of aggregate demand policy to affect the rate of demand inflation and the rates of economic growth and unemployment? **(4 marks)**
 - i. Discretionary reductions in the rates of company and PAYG taxes (2017–18–19–20–23 budgets)
 - ii. Increased defence spending on new imported equipment and overseas peacekeeping
 - iii. The construction of a nuclear desalination plant to ease water shortages
 - iv. Further encouragement of household superannuation and national savings
 - v. The introduction of the \$30 000 instant tax write-off for small and medium-sized businesses and accelerated depreciation allowances for companies (2019–20 budget)

- vi. Outlays of \$453 billion to extend access to pre-school education (2019–20 budget)
- vii. A huge increase in government investment spending on national infrastructure projects to \$100 billion over the next 10 years
- viii. Increased spending on defence equipment and foreign aid
- ix. Payment of the \$75 per single pensioner as part of the Energy Assistance payment and \$755 million in outlays on home care packages (2019–20 budget)
- (d) Outline *two* general ways whereby a budget deficit could be returned to a budget surplus. **(2 marks)**
- (e) Identify and explain *two* reasons why a return to a budget surplus in the medium term could be seen as desirable. **(2 marks)**
- (f) Assume that you are the federal treasurer right now. You are about to deliver a budget in the next few weeks that seeks to promote *domestic economic stability* and improve living standards.
 - i. Identify and outline the *three* most important factors or events that would affect your budgetary policy stance at this time. **(3 marks)**
 - ii. In this situation, explain the *operation* of automatic (cyclical) stabilisers and discretionary (structural) stabilisers in your budget that would help improve domestic stability at this time. Include reference to specific discretionary policies you would use. **(4 marks)**

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4.9 Strengths and weaknesses of using budgetary policy to achieve the government's domestic macroeconomic goals and the affect on living standards

KEY CONCEPT

- the strengths and weaknesses of using budgetary policy to achieve the Australian government's domestic macroeconomic goals and how these goals may affect living standards

Using budgetary policy to help promote our three domestic macroeconomic goals and provide better living standards can have a number of *strengths* and *weaknesses* that the treasurer needs to keep in mind in order to optimise success.

4.9.1 The strengths of using budgetary policy to achieve Australia's domestic macroeconomic goals

Table 4.8 summarises some of the key *strengths* of using budgetary policy to help promote domestic macroeconomic goals and livings standards.

TABLE 4.8 Some possible strengths of using budgetary policy to promote macroeconomic goals and living standards

Possible strength	Description of strength
1. Automatic stabilisers have short time lags for their recognition, implementation and impact	Many government economic policies involve <i>three</i> types of time lags and so can take years to work making them less useful as a stabiliser. There is the <i>recognition lag</i> for identifying the problem — this is due to the existence of lagging indicators like GDP; the <i>implementation lag</i> in activating the policy; and the <i>impact lag</i> in waiting for the policy to actually boost or slow AD and economic activity. A real advantage of automatic budget stabilisers is that they work very quickly in a countercyclical way to affect AD and reduce economic instability even in the short term, with almost no time lag. For instance, the moment the economy slows and incomes fall and unemployment rises, tax receipts will automatically decline and welfare outlays rise, causing the budget stance to quickly become a more expansionary deficit, boosting AD.
2. Automatic stabilisers do not normally create permanent budget deficits or a need for borrowing	Unlike discretionary stabilisers, automatic stabilisers used during a slowdown should disappear once the economy recovers, returning the budget to surplus. They will not normally lead to a permanent structural budget deficit that needs to be funded by a rise in government borrowing. The burden of repaying debt is hence avoided.
3. Discretionary policy can precisely target particular areas of weakness in the economy	Budgetary policies involving changes in receipts and expenses can <i>precisely</i> target particular economic problems in different parts or sectors of the economy. For instance, the budget can surgically alter the allocation of resources to specific industries like health, education and the environment, and help the aged or homeless. It can also discourage the consumption of particular products like alcohol, as well as operate more generally on the macro level to affect national consumption, investment, government spending, net exports, AD and GDP. Potentially, this makes it a very versatile and precise instrument for pursuing some government economic goals.
4. Works fairly directly to change AD and economic activity	The budget can work in a very <i>direct</i> way to affect AD and economic activity. For instance, in a recession, reduced budget receipts and increased outlays (perhaps leading to an expansionary rise in the budget deficit) can be used to inject extra cash or disposable income directly into people's bank accounts, where they are likely to spend at least part of it. Additionally, discretionary government consumption (G_1) and investment spending (G_2) can also directly feed extra expenditure into the economy to lift economic activity (although this is likely to add to the deficit and government debt that may take years to repay). In reverse, during inflation, automatic rises in receipts and cuts in welfare outlays directly hold down AD, slowing the economy.
5. Apart from regulating aggregate demand, some budget initiatives can also make aggregate supply conditions more favourable, growing the economy's productive capacity	We know that budgetary policy can help regulate aggregate demand and improve domestic stability. However, an added bonus is that changes in some budget receipts (such as a lower rate of company tax) and outlays (such as an increase in spending on infrastructure projects and education) can also improve aggregate supply conditions for businesses and individuals. In turn, these can help to lower inflation, strengthen the sustainable rate of economic growth, create fuller employment and improve both material and non-material living standards.

4.9.2 The weaknesses of using budgetary policy to achieve Australia's domestic macroeconomic goals

Table 4.9 summarises some of the key *weaknesses* of using budgetary policy to help promote domestic macroeconomic goals and living standards.

TABLE 4.9 Some possible weaknesses of using budgetary policy to promote domestic macroeconomic goals and living standards

Possible weakness	Description of weakness
1. Discretionary budget stabilisers can become pro-cyclical due to their long time lags between recognition of a problem in economic activity and the impact of the corrective policy	There are often long time lags associated with the recognition, implementation and impact of many discretionary budgetary policies, so there is a real risk they can become pro-cyclical , increasing instability in AD. Most discretionary budget stabilisers are in this category and so are of limited use in correcting short-term or cyclical instability. Their full impact on the level of AD and economic activity can take 3–8 years or even longer. Discretionary changes are often more suited to promoting medium- to long-term stability. Examples of discretionary measures with long time lags might include government spending projects involving large-scale public or capital infrastructure works (e.g. building the NBN, water pipelines and reservoirs, electricity grids, major highways and technical colleges). While these measures will eventually impact on AD, GDP and employment, discretionary spending measures can become <i>pro-cyclical</i> (worsening instability) rather than <i>countercyclical</i> (reducing instability). For instance, the announcement of a large discretionary budget deficit involving capital works during a recession (to help reduce unemployment) might not actually lift AD and economic activity for several years, during which time the economy may have recovered and moved into a boom phase. More spending in a boom would only add to inflationary pressures and actually undermine economic stability.
2. Lack of flexibility in some parts of the budget to be able to change some outlays, receipts or AD	Some budget receipts and outlays are <i>inflexible</i> and cannot suddenly be increased or decreased in response to changes in the level of domestic economic activity. For example, apart from political considerations, the rate of pensions and welfare benefits, or per capita outlays on education or health, cannot be suddenly reduced, since these areas must be maintained, irrespective of the prevailing conditions.
3. Financial constraints and the creation of a structural budget deficits can limit budget options during a slowdown	Like individuals, governments face <i>financial constraints</i> where there is limited money available for spending (especially given that raising taxes is unpopular). For instance, during a slowdown, the government may want to cut tax rates, increase outlays or run an expansionary budget deficit to help stimulate AD and economic activity. Given that the medium-term operating goal of budgetary policy is to run surpluses, financial constraints limit the federal treasurer's options. Recently for example, the treasurer was forced to gradually try to cut the deficit despite some ongoing weakness in the economy, instead, shifting the main burden of stimulus onto monetary policy (involving record low interest rates).
4. Budgetary policy can undermine monetary policy through the problems of crowding out or crowding in.	Budgetary policy used as a stabiliser can sometimes undermine the effectiveness of monetary policy. For instance, when the economy is weak and the government decides to run budget deficits to stimulate AD financed by borrowing through the sale of government bonds

Possible weakness	Description of weakness
	domestically, this can increase the demand for credit in local financial markets. As an unintended result, this puts upward pressure on local interest rates at a time when it would be better to have lower interest rates to boost spending. In turn, higher interest rates can lead to the problem of <i>crowding-out</i> private sector C and I spending, unfortunately slowing the economy. In reverse, when there are budget surpluses during a boom designed to slow AD and economic activity and the government decides to repay previous debt, this can cause lower interest rates and lead to the problem of <i>crowding-in</i> by borrowers, adding to spending, inflationary pressures and instability.
5. Constraints due to conflicts or trade-offs between government economic goals	Some fiscal policies cannot be used to pursue one particular government economic goal because they can <i>conflict</i> with the pursuit of another policy objective (there is a trade-off). For example, although mildly contractionary budgets like some of those in 2016–17–18–19–20 slow inflation, they also reduce economic growth and increase unemployment. In reverse, expansionary budget deficits, which are designed to boost economic growth and create jobs, may also accelerate inflation. Additionally, while slowing welfare or government spending on services such as health, public transport and education may help return the budget to surplus, these measures are also likely to reduce equity in the distribution of income and undermine living standards. Further, using contractionary budgets (perhaps involving higher taxes and cuts in outlays on education, R&D and infrastructure to slow demand inflation) can have negative long-term effects on productive capacity and AS, slowing economic and employment growth and eroding living standards.
6. Adverse political constraints can limit budget options	As seen in recent years, there are <i>three</i> types of political constraints that can act as deterrents and reduce the effectiveness of budgetary policy as a stabiliser of economic activity. • <i>The absence of a federal government majority in the Senate.</i> For some parts of the budget to become law, they first need approval in both houses of parliament. In recent years, the Liberal Coalition government has lacked a majority in the Senate, which was controlled by Labor and various minorities. This caused significant aspects of budget receipts and outlays to be rejected. Examples include the proposed tightening of welfare, cuts to education and the \$7 co-payment scheme for health services. As a consequence, the budget deficit became larger and more expansionary than otherwise, adding to the structural deficit and delaying the return to surplus. • <i>Adverse voter reaction.</i> Some changes in receipts and outlays can have significant adverse ramifications in election years. For example, while few voters oppose discretionary tax cuts, or increased outlays on health and education (that increase the structural budget deficit), most voters object to higher tax rates or cuts to government services, and may take out their anger on unpopular governments at the next election. As a result, the budget has an expansionary bias and structural deficits can easily develop, even if they are not entirely warranted. This undermines the financial sustainability of important budget outlays like welfare and health, and weakens the government's ability to respond to future economic crises.

(continued)

TABLE 4.9 Some possible weaknesses of using budgetary policy to promote domestic macroeconomic goals and living standards (*continued*)

Possible weakness	Description of weakness
	• <i>The federal government has limited powers.</i> Under Australia's Constitution, specific responsibilities are allocated between the states and the federal government. This restricts what budgetary policy actions the federal government can take as it seeks to stabilise the economy. For example, the Australian government lacks the power to directly lower or raise the GST (from 10 to 15 per cent was suggested by some during 2015–16) since this would require approval from the states.
7. Psychological constraints can reduce the budget's effectiveness as a stabiliser	The success and strength of any budget depends partly on the prevailing level of <i>confidence</i> . For instance, reduced consumer and business confidence (e.g. during 2014–19) would tend to weaken the expansionary effects of budget deficits. In reverse, if confidence is strong, contractionary budgets can be made less effective than expected in slowing the level of AD, adding to instability.

4.9 ACTIVITIES

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Check your understanding

1. What are the main strengths of using budgetary policy?
2. What are the main weaknesses of using budgetary policy?

Applied economic exercises

1. During a *recession*, identify and outline two important weaknesses of using budgetary policy as a stabiliser of domestic economic activity. For each, try to give a specific current example illustrating the weakness. **(4 marks)**
2. How might the existence of long *time lags* reduce the effectiveness of using budgetary policy as a stabiliser of aggregate demand and economic activity? **(4 marks)**
3. A possible advantage of using budgetary measures is that they can target particular economic problems more precisely. Explain, giving possible examples. **(4 marks)**

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PART B Aggregate demand monetary policy and the pursuit of domestic economic stability

4.10 Definition and aims of monetary policy, and the role of the RBA

KEY CONCEPT

- the role of the RBA with respect to monetary policy as outlined in its charter

Monetary policy is an aggregate demand management strategy implemented by the Reserve Bank of Australia (RBA) that involves changes in **interest rates**.

Monetary policy is an important macroeconomic or aggregate demand measure that is applied countercyclically by the RBA. As we shall see, changing the level of interest rates can affect C, I, and even net X spending, and hence this can help stabilise the overall level of spending. For instance, during an economic slowdown, when GDP growth is weak and below trend, unemployment is high and inflation is low, the RBA often uses an expansionary monetary policy stance involving lower interest rates, to boost spending and activity. As seen recently in Australia, this economic stimulus has involved 15 consecutive reductions in official interest rates to September 2019. In turn, lower interest rates work to stimulate AD through various transmission mechanisms (explained shortly). In reverse, when the RBA is concerned about inflationary pressures, it uses rises in the cash rate to slow spending and promote the goal of low inflation.



4.10.1 Definition of monetary policy

Monetary policy involves the RBA using changes in official interest rates to affect the cost, availability and demand for credit and the rate at which credit flows between the financial sector and the rest of the economy. In so doing, the RBA can regulate the level of AD.

Because changes in interest rates have the capacity to alter the level of spending or AD (particularly C, I and even net X) and economic activity, this is regarded as *an aggregate demand policy* that can be used to help achieve the government's key domestic macroeconomic goals including low inflation, strong and sustainable economic growth, and full employment.

4.10.2 Role of the Reserve Bank of Australia

The RBA is our country's independent central bank and is accountable to the parliament. Under its charter, it has *three* main responsibilities or roles:

- The RBA implements monetary policy involving changes in interest rates designed to influence AD and *improve domestic economic conditions*. This role was outlined in the *Reserve Bank Act* of 1959:

... to ensure that the monetary and banking policy of the [Reserve] Bank is directed towards the greatest advantage of the people of Australia and that the powers of the Bank ... are exercised in such a manner ... as will best contribute to the stability of the currency of Australia; the maintenance of full employment in Australia; and the economic welfare and the prosperity of the people of Australia.

- The RBA is responsible for *issuing coins and notes* and is custodian of Australia's reserves of foreign currencies.
- The RBA is *banker to the federal government*. For instance, here it might arrange the issue of government bonds to help finance budget deficits.



4.10.3 The macroeconomic aims of monetary policy

The RBA uses monetary policy involving changes in interest rates to pursue three key *domestic macroeconomic* goals, thereby helping to create optimal conditions for better *living standards*.

The pursuit of the goal of low inflation

Foremost, the RBA sees the *goal of low inflation* as its number one priority. **Inflation targeting** (summed up as '*fighting inflation first*') means achieving an *average* inflation rate of between 2–3 per cent a year over the cycle. This is the *medium-term operational aim* of monetary policy. While the RBA uses changes in consumer prices as measured by the headline CPI to help guide policy decisions, it is also especially interested in the underlying CPI to determine the direction of core inflation, since this can be a better guide to future inflationary problems or trends.

Hence, when inflationary expectations exist and there are signs that inflation will accelerate to exceed the upper end of the 2–3 per cent target range (and especially when core inflation is up), the RBA will normally *tighten* its stance (set higher interest rates) in a **countercyclical** way, to depress inflationary expectations, slow the growth of AD or spending, and curb economic activity to a sustainable rate. Additionally, by slowing AD and economic activity, rises in interest rates help to soften the demand for labour, and hence ease wage pressures and possibly also cost inflation.

The pursuit of the goals of strong and sustainable economic growth and full employment

When inflation is *not* a threat, the RBA usually turns its attention to other aspects of domestic economic stability such as the pursuit of a strong and sustainable rate of *economic growth* and *full employment*. So when the level of economic activity is too weak (yet inflation is under control), the RBA gradually adopts a countercyclical expansionary stance to help stimulate AD and economic activity.

The main reason for the RBA giving *priority to the control of inflation* is that low inflation is seen as a precondition for achieving other government macroeconomic goals. Limiting inflation is often seen as the best way to create conditions that maximise the sustainable rate of economic growth and minimise cyclical unemployment.

The thinking behind this approach is simple. For instance, low inflation helps to maintain solid consumer and business confidence that is needed for a steady rise in spending. Low inflation also discourages speculative activity, promotes adequate saving and attracts resources into productive investment in new plant and equipment (as opposed to more speculative uses) that is so important for long-term economic growth.

The recent priorities of monetary policy

During the last couple of years, the rate of *economic growth* has been *weaker* and below trend (averaging around 2.5 per cent), *unemployment* has been *higher* than 5 per cent and *inflation* has been very *slow* and less than 2 per cent, below the RBA's target range. As a result of having much spare or *unused productive capacity* and hence no threat of demand inflation, the RBA's priority has been to adopt a *highly expansionary stance* designed to strengthen economic growth and lower cyclical unemployment by encouraging higher levels of credit-based and other types of spending.



Resources



Weblinks Monetary policy

Monetary policy and the Federal Reserve

4.10 ACTIVITIES

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Check your understanding

1. Define what is meant by *monetary policy*.
2. What are the main *goals* of the RBA's monetary policy?

Applied economic exercises

1. (a) What is meant by *inflation targeting*? (2 marks)
(b) Why is monetary policy regarded as an *aggregate demand policy*? (2 marks)
(c) What is the primary medium-term operating goal of the RBA? (1 mark)
(d) If inflation is slow, what other goals might monetary policy pursue? (1 mark)
(e) What were the main priorities of the RBA's monetary policy during the past two years? (2 marks)

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4.11 The role of open market operations in altering interest rates

KEY CONCEPT

- the role of open market operations in altering interest rates

Changes in the level of interest rates are central to monetary policy and are used by the RBA to help regulate the levels of AD and economic activity. In general terms, *interest rates represent the cost or price of credit*. As such, they are normally determined in *financial markets* by the *demand* for credit by borrowers such as households, firms and governments, relative to the *supply* of credit by lenders (households and businesses who place their savings in financial institutions). However, the RBA also has the capacity to affect the level of interest rates generally, by changing the **official cash rate**.

The *cash rate* is the interest rate that applies to a specialised market called the overnight or **short-term money market**. This rate depends on the overall supply of cash (deposits) in the overnight money market which, in turn, is controlled by the RBA through its open market operations (OMO). These activities affect the size of special balances held by each major financial institution (e.g. the banks, building societies, finance companies and superannuation funds) in its *exchange settlement account* with the RBA. But how does this complex system work to affect interest rates? First, more background information is needed.

Each major financial institution is required to keep its *exchange settlement account* with the RBA in credit (for which it receives interest). These account balances exist mainly for settling transactions between institutions during the day's trading. Such transactions are caused mainly by the movement of cheques; for example, a customer with one bank writes a cheque payable to a customer at another bank. In turn, through the *Reserve Bank information and transfer system* (RITS), cheque amounts are either credited or debited electronically against the exchange settlement account for each institution. This settlement process does not affect the total level of cash or deposits in these accounts (since rises in deposits for one institution are offset by a fall in deposits belonging to another). As a result, transactions of this type do not cause deposited funds to become either scarcer or more plentiful and so they do not affect the cash rate. What can add to, or reduce, the overall size of cash deposits in exchange settlement accounts are the activities between financial institutions and the RBA. For example, when companies and individuals use cheques or electronic funds transfers to pay taxes to the government, the overall level of balances in exchange settlement accounts falls. In reverse, when the government through the RBA pays tax refund cheques into individuals' bank accounts, overall balances in exchange settlement accounts grow. However, while these transactions may have some effect on the cash rate in the short-term money market, they do *not* allow the RBA to actually control or determine the cash rate.

The main determinant of the cash rate (along with other interest rates generally) is the daily conduct of **open market operations** that directly affect the supply of cash in the short-term money market. *Market operations involve the RBA either buying back or selling secondhand government securities or bonds to members of the RITS through the short-term money market*. Here, you should think of securities or bonds as simply government IOUs for particular amounts of money that earn a given rate of interest over a period of time. Armed with this understanding, let us take a



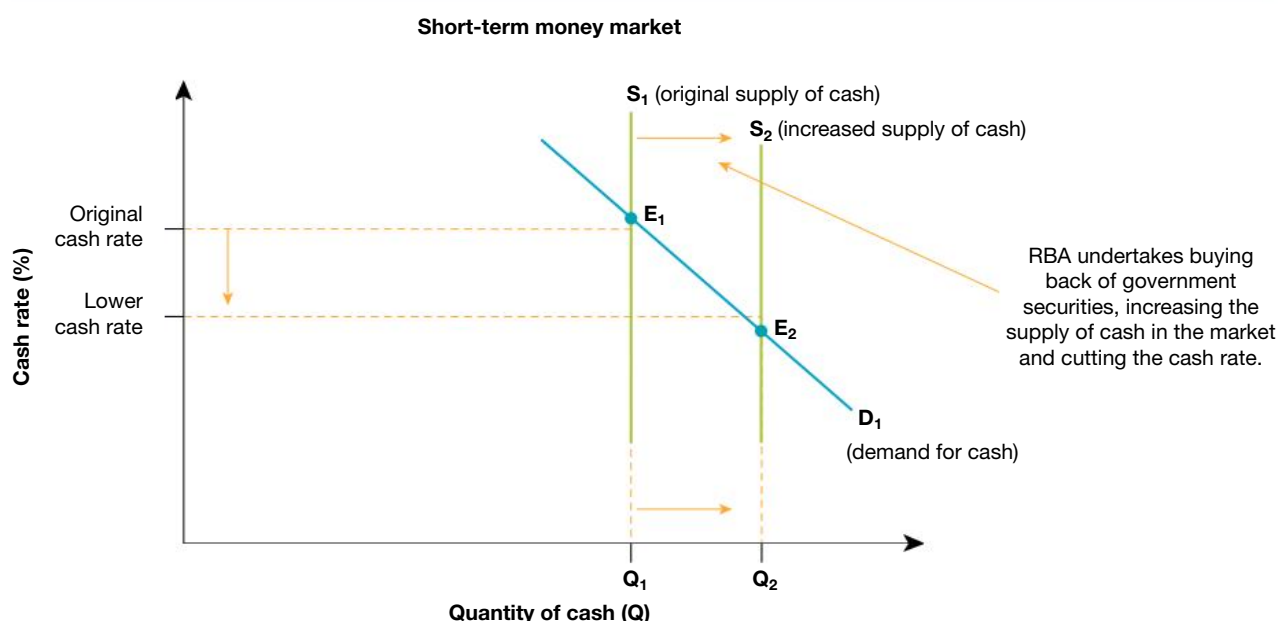
look at the three positions or types of **monetary policy stance** on interest rates that the RBA may want to adopt in its management of economic activity.

4.11.1 How the RBA can use open market operations to lower interest rates — an expansionary stance

Suppose that the RBA wanted to *reduce interest rates* to help *stimulate AD* and economic activity during an economic *slowdown*. The process would involve several steps.

Step 1:	The RBA would first announce a lower cash rate target, giving the reasons for its decision (such as low inflation, weak economic growth, rising unemployment, a recession in China).
Step 2:	To reach this new target, the RBA would conduct open market operations that would involve <i>buying back government securities</i> or bonds from the financial institutions operating in the short-term money market. Here, RBA buying would cause the price paid for securities to increase, thereby lowering their yield so that financial institutions would be happy to get rid of these government bonds.
Step 3:	In exchange for government bonds, the RBA transfers cash deposits into the accounts of financial institutions. As shown in figure 4.16, this increases the supply of cash or the level of deposits held by financial institutions in their exchange settlement accounts (the shift from S_1 to S_2), leaving the market with excess funds or liquidity. The consequence of this would be a fall in the cash rate equilibrium towards the desired RBA target.
Step 4:	The drop in the cash rate in the short-term money market would spread to cause other interest rates in the financial sector to also fall, through a 'ripple effect'.
Step 5:	As we shall soon see, the general drop in the cash rate to below a rate of perhaps 2.5 per cent, usually signals a <i>looser</i> or more <i>expansionary monetary policy stance</i> that would tend to make borrowing and spending cheaper and more attractive, thereby boosting AD and economic activity.

FIGURE 4.16 How OMO involving the RBA buying back government securities in the short-term money market can decrease the cash rate (adopting a more expansionary stance).

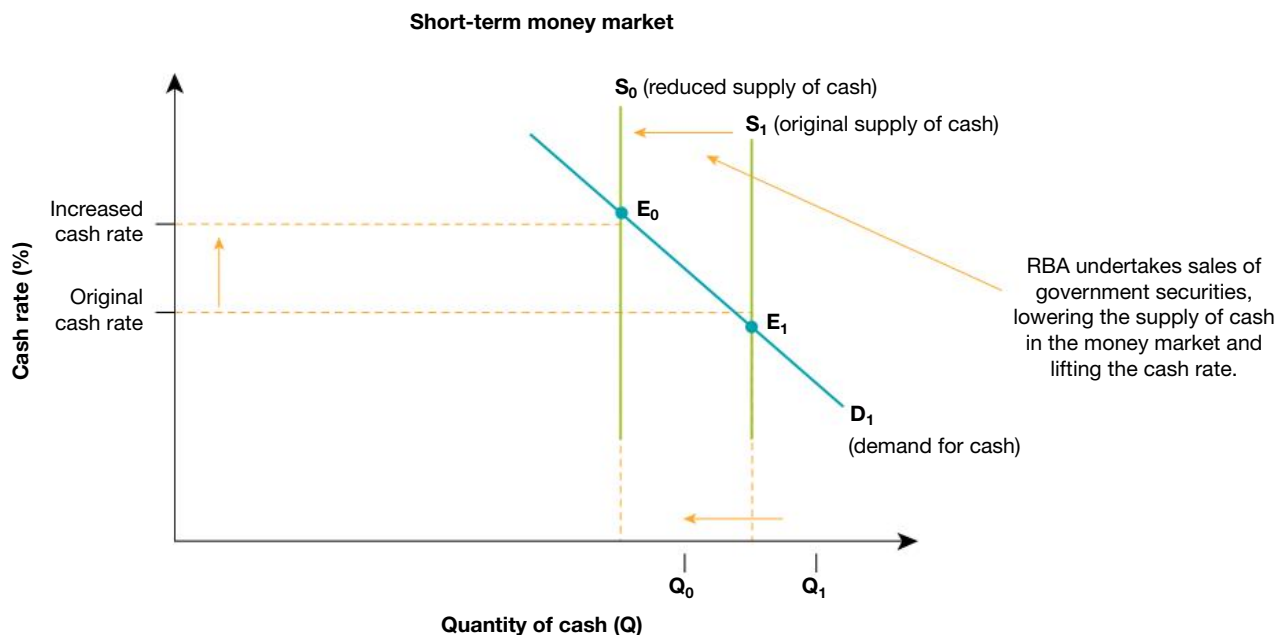


4.11.2 How the RBA can use open market operations to increase interest rates — a contractionary stance

Assume that the RBA needed to *raise interest rates* because it wanted to *slow AD* and curb inflationary pressures. How would the RBA go about raising the cash rate?

Step 1:	The RBA would announce a rise in the cash rate target and provide a detailed explanation of the reasons for its decision (e.g. the rise in the CPI was at the upper end or above the 2–3 per cent target range, limited unused productive capacity is available).
Step 2:	The RBA would then set out to achieve this target by conducting open market operations involving <i>selling government securities</i> at a discounted rate in the short-term money market. Financial institutions, keen to make a profit, would suddenly find these securities more attractive because when purchased at a lower price, their yield would rise. This gives owners a better rate of return on their investment.
Step 3:	Organisations taking up this tempting offer would transfer cash deposits to the RBA in exchange for receiving government bonds or IOUs. This directly reduces deposits or the supply of cash held by financial institutions in their exchange settlement accounts. Competition among institutions for limited funds to top up their exchange settlement accounts would cause an increase in the cash rate towards the announced target. The impact of net sales of government securities in the short-term money market is illustrated in figure 4.17. Notice the decrease in the supply of cash in this market (the shift from S_1 to S_0) causes a rise in the cash rate (the shift from the original cash rate to a higher one).
Step 4:	The rise in the cash rate in the short-term money market would spread through a ‘ripple effect’, increasing interest rates in other parts of the financial market.
Step 5:	A rise in the cash rate set by the RBA to a level perhaps above 2.5 per cent, would nowadays be indicative of a <i>tighter monetary policy stance</i> designed to slow AD and reduce inflationary pressures.

FIGURE 4.17 How OMO involving the RBA selling government securities in the short-term money market can increase the cash rate (a more contractionary stance).



4.11.3 How the RBA can keep interest rates steady

Often, however, the RBA just wants to keep interest rates *steady* since they are already at an appropriate level given current economic conditions. In this case, the RBA's daily selling and buying back operations will seek to avoid changing the overall supply of cash in the short-term money market, keeping the current cash rate unchanged. When the cash rate is held at around 2.5 per cent (i.e. the rate currently required for low inflation and full employment), this is considered to be a fairly *neutral stance* and within the *normal* range for a healthy economy. By contrast, if the cash rate is kept above or below this neutral range, there must be inflationary or deflationary circumstances requiring attention by the RBA.

By being able to control the cash rate in this way, RBA policy has the capacity, through a ripple effect, to influence other commercial interest rates (e.g. those on home mortgages, overdrafts, credit cards and savings deposits) that are generally applicable elsewhere in the financial sector. As we shall see, changing the RBA's monetary policy stance through variations in the cash rate target is a handy instrument for stabilising the level of spending and economic activity.



Resources



Weblink Tools of monetary policy

4.11 ACTIVITIES

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Check your understanding

1. Explain how the RBA can use open market operations to change the cash rate target.

Applied economic exercises

1. (a) Define each of the following terms:
 - i. the cash rate target (1 mark)
 - ii. open market operations. (1 mark)(b) Assume that the RBA decided to *decrease* its cash rate target. Clearly explain the steps or process used by the RBA to lower interest rates. Illustrate this approach using a labelled demand–supply diagram representing the short-term money market (showing the *before* and *after* situations). (4 marks)

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4.12 Transmission mechanisms of monetary policy and their influence on the level of aggregate demand

KEY CONCEPT

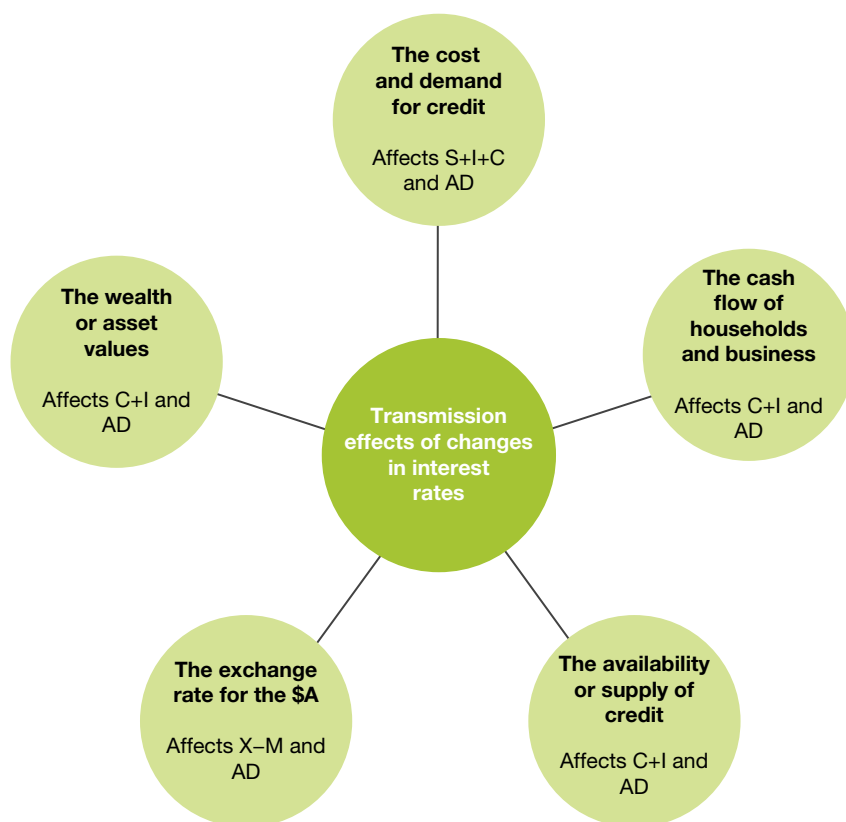
- transmission mechanisms of monetary policy and their influence on the level of aggregate demand including savings and investment, cash flow, availability of credit, exchange rate movements and asset prices

Monetary policy is an *aggregate demand policy*. In this section, we are going to look at the various **transmission mechanisms** (sometimes called *transmission channels*). They are simply the ways whereby an increase or decrease in the cash rate operates to bring about a rise or fall in AD and economic activity, designed to help improve domestic economic stability. There are at least *five* of these transmission mechanisms or channels, including:

- transmission by changing the cost of and demand for credit
- transmission by affecting the cash flow of households and firms
- transmission by affecting the availability or supply of credit
- transmission by affecting the exchange rate
- transmission through the wealth or asset values effect.

An overview of these transmission channels is provided in figure 4.18.

FIGURE 4.18 The five transmission mechanisms on channels of RBA's monetary policy



4.12.1 Transmission by changing the cost of and demand for credit

The most obvious transmission mechanism whereby a change in interest rates affects AD and economic activity is by altering the cost of borrowing credit (called the **cost of credit effect** or channel) as opposed to saving. Lower interest rates increase the demand for credit and make it cheaper to borrow and repay debt. Furthermore, lower rates make saving (affecting leakages) less attractive. Households and businesses become more willing to take out loans to finance credit-sensitive consumption and investment spending on goods and services, thus stimulating AD and economic activity.



By contrast, higher interest rates make households and firms less willing to borrow in order to finance their purchases of goods and services. The demand for credit slows and people also have more incentive to save. With weaker consumption and investment, AD and economic activity slow.

4.12.2 Transmission by affecting the cash flow of households and firms

Changes in interest rates affect the level of discretionary spending by households and others with existing loans, such as home mortgages and overdrafts, changing the amount of income that they have left to spend on other things. This is called the **cash flow effect**.

When interest rates are cut, borrowers have more cash to spend on other goods and services after they have met their interest repayments on debt. This tends to stimulate consumption spending, AD and economic activity. However, when interest rates rise and individuals with existing loans have to make larger interest repayments, the lack of cash flow means they have to cut other purchases, slowing national spending.

4.12.3 Transmission by affecting the availability or supply of credit

Changes in interest rates work through the **availability of credit** channel and hence influence the level of spending and economic activity. Lower interest rates increase the supply or availability of credit or money offered by banks and other financial institutions. This is because more borrowers can service this debt and can meet the criteria or tests set by financial institutions since the risk of customer default is lower. Lending approvals are therefore higher. This leads to increases in consumption and investment spending, encouraging AD and boosting activity.

However, when interest rates increase, fewer borrowers can meet the requirements. The number of bank approvals and loans is reduced, limiting spending and activity.

4.12.4 Transmission by affecting the exchange rate

Domestic interest rates affect the exchange rate for the Australian dollar (called the **exchange rate effect** or channel) and hence the level of AD and domestic economic activity.

For example, a cut in our interest rates relative to those overseas, tends to weaken the Australian dollar. This is because overseas lenders of credit are discouraged by the relatively lower and less attractive returns here than in their home country, reducing the demand for the Australian dollar in the foreign exchange market. At the same time, local borrowers are less attracted to borrowing money overseas. Either way, with less money capital flowing into the country, the Australian dollar typically falls. This makes our exports cheaper and imports dearer, boosting AD and economic activity.

In reverse, when Australian interest rates rise relative to those abroad, overseas capital becomes more attractive to both foreign lenders and local borrowers. This increases the demand for and decreases the supply of the Australian dollar in the foreign exchange market, pushing up the exchange rate. As a result, net exports ($X - M$), AD and economic activity are slowed.

In its attempts to stabilise AD and economic activity, the RBA has sometimes exploited this handy connection between its changes in domestic interest rates and the exchange rate for Australian dollar.

4.12.5 Transmission through the wealth or asset values effect

Interest rates can affect how wealthier people with assets like shares and property, *see* their financial position. This influences their actual level of spending and economic activity (called the **wealth effect** or transmission channel).

Lower interest rates, for instance, tend to increase the value of property and shares. This is because cheaper credit often leads to an increase in the demand for these assets, raising their price or value. As a result of feeling wealthier, owners are more likely to increase their consumption spending, leading to an

increase in AD and economic activity. Furthermore, asset speculators who use credit to buy cheap and then sell at a higher price will realise bigger capital gains and a real increase in their wealth.

In reverse, higher interest rates make credit dearer to borrow. This causes asset prices or values to fall, leading to a feeling of being less wealthy, thereby slowing AD and economic activity. Additionally, asset owners who sell in this situation will make smaller capital gains or perhaps incur a loss of wealth.



Resources



- Weblinks**
- How interest rate cuts affect consumers
 - Monetary policy and the Federal Reserve
 - Monetary policy (EconMovies 9: Despicable Me)

4.12 ACTIVITIES

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Check your understanding

1. What are transmission mechanisms or channels and how do they work?

Applied economic exercises

1. Explain how each of the following transmission mechanisms would operate to affect AD, following a *rise* in the RBA's cash rate target.
 - (a) The cost of credit (2 marks)
 - (b) The cash flow of households and businesses (2 marks)
 - (c) The availability of credit (2 marks)
 - (d) The exchange rate (2 marks)
 - (e) The wealth or asset values effect (2 marks)

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4.13 The stance of monetary policy and how the RBA decides this

KEY CONCEPT

- the stance of monetary policy: expansionary or contractionary

Monetary policy is an aggregate demand management strategy used to help stabilise the economy by changing official interest rates. It is applied in a *countercyclical* way to help regulate the strength of AD, and hence improve domestic economic stability and promote better living standards.

Hence, when the economy is running too *slowly* and economic growth and employment trends are weak, often an *expansionary stance* is adopted to stimulate AD, whereas when activity is too *strong* causing inflationary pressures, a more *contractionary stance* is required to slow AD. So what exactly do we mean by the term *monetary policy stance*?

4.13.1 Definition and nature of the RBA's monetary policy stance

In discussion, economists often talk about the RBA's *monetary policy stance*. This simply refers to whether the change in the cash rate or policy setting, is designed to slow, maintain or stimulate AD and the level of economic activity. So at a very simple level, there are *three* possible stances or positions that can be adopted by the RBA — expansionary, contractionary or neutral.

- *A fairly neutral stance.* A *neutral* monetary policy stance exists when the RBA sets or keeps interest rates at a level that is required to bring about full employment and stable inflation over the medium-term. The cash rate corresponding to this stance has fallen over the last decade by around 150 basis points and while it is hard to be precise because it can change, nowadays a *neutral* cash rate could be around 2.5 per cent. At this rate, the RBA is not deliberately trying to either accelerate or slow AD and economic activity.
- *An expansionary stance.* When the RBA's reduces its cash rate target to a level below 2.5 per cent, this is often seen as a relatively *expansionary stance*, since the intention here is to lift AD and stimulate economic activity and reduce unemployment.
- *A contractionary stance.* If the RBA were to raise the cash rate target to a level, perhaps above 2.5 per cent, nowadays this would probably be regarded as a relatively *contractionary stance* designed to curb AD, economic activity and inflation.

These three positions are summarised in table 4.10.

TABLE 4.10 Describing the RBA's three main monetary policy stances

Monetary policy stance	Main indicators of the policy stance	Aim of this policy stance
• Expansionary or looser monetary policy stance (e.g. from late 2016 to late 2019, the cash rate was cut to just 0.75 per cent). • This stance may be adopted by the RBA if there is: • very low inflation • slow GDP growth • rising unemployment • a rise in the labour force underutilisation rate • slow growth in AD • weaker confidence • a slowdown overseas • a drop in the terms of trade • a tighter budget.	The RBA has an expansionary stance when the cash rate is relatively <i>low</i> (perhaps below the normal range of around 2.5 per cent) and it then <i>cuts</i> the rate using open market operations involving <i>net repurchases</i> of government bonds or securities in the short-term money market. An example of an expansionary stance would be a reduction in the cash rate from, say, 2.5 to 1.0 per cent.	The aim is to use <i>lower interest rates</i> and through various transmission mechanisms or channels, help <i>stimulate</i> AD and economic growth, and reduce unemployment, without adding significantly to inflationary pressures.
• Contractionary (tighter or restrictive) monetary policy stance. • This stance may be adopted by the RBA if there is: • high inflation • strong spending and confidence • very fast GDP growth • low unemployment or unused capacity • strong global economic growth.	The RBA has a contractionary stance when the cash rate is relatively <i>high</i> and it then <i>raises</i> the rate (above the normal range of perhaps 2.5 per cent) using its open market operations involving <i>net sales</i> of government bonds or securities in the short-term money market. An example of a contractionary stance is a rise in the cash rate from, say, 2.5 to 4.0 per cent.	The aim is to use <i>higher interest rates</i> and various transmission mechanisms or channels, to <i>slow</i> AD and economic activity, thereby reducing inflation to within the 2–3 per cent target range.

(continued)

TABLE 4.10 Describing the RBA's three main monetary policy stances (*continued*)

Monetary policy stance	Main indicators of the policy stance	Aim of this policy stance
• Neutral or normal monetary policy stance. • This stance may be adopted if reasonable domestic economic stability already existed with: • low inflation • strong and sustainable growth • full employment.	The RBA has a neutral stance when the cash rate target is within the <i>normal range</i> for a healthy economy of around 2.5 per cent. It then holds interest rates fairly steady by appropriate and regular open market operations involving both the buying back and selling of government bonds.	The aim here is to neither stimulate nor slow AD and economic activity because conditions are ideal. Monetary policy is adopting a fairly neutral role.

4.13.2 Checklist of indicators used by the RBA to decide its policy stance

A *checklist of indicators* is used by the RBA to decide whether the monetary policy stance should be expansionary or contractionary.

The board of the RBA meets 11 times each year, on the first Tuesday of each month (except January) to consider its monetary policy settings in relation to the current and expected future state of the economy. In making important decisions about the appropriate cash rate target and whether to adopt an expansionary (looser), contractionary (tighter) or neutral monetary policy stance, the board typically uses a *checklist of important indicators* of macroeconomic conditions. Some of these are shown in table 4.11.

TABLE 4.11 Checklist of some key indicators used by the RBA to influence its monetary policy stance

Checklist indicator	Description of indicator
1. Trends in inflation	The RBA takes a careful look at quarterly trends in the headline CPI, the underlying inflation rate, costs of materials used in manufacture and wage costs. For instance, when core inflation is below the target range, the RBA might choose to adopt a more expansionary stance to stimulate AD and economic activity. However, when inflation is near the upper end of the RBA's 2–3 per cent target rate or higher, a more contractionary stance is usually required to help control inflation by slowing AD and economic activity.
2. Levels of national spending and confidence	The RBA keeps a close watch on the growth in AD (relative to the economy's productive capacity or AS), housing approvals, household debt, private consumption and investment spending, and changes in consumer and business confidence. For instance, if national expenditure is rising faster than GDP and confidence is strong, this might suggest a need for a more contractionary stance so that inflation is avoided. In reverse, when spending is rising very slowly, perhaps due to weaker confidence, the RBA might be more tempted to adopt an expansionary stance to boost GDP and jobs.
3. Labour market conditions	Changes in labour market conditions (indicated by trends in the unemployment rate, labour force underutilisation rate, average hours worked, job vacancies and the labour force participation rate) are seen as important indicators of economic conditions. These tell the RBA whether the economy is operating near its capacity and might throw light on the risk of boom or recession. For instance, the RBA would be more likely to adopt an expansionary stance if labour market conditions are getting weaker, while a more contractionary stance is likely if conditions are very strong.

Checklist indicator	Description of indicator
4. Budgetary policy stance	When setting its stance, the RBA takes account of the budgetary policy outcome and whether it is becoming more or less expansionary in its effect on AD. For instance, if the federal treasurer is forced to reduce the deficit when the economy is quite weak to slow the rise in government debt (a more contractionary stance), the RBA might help offset this change with a more expansionary stance. Alternatively, a more expansionary budget could cause the RBA to adopt a less expansionary stance if it thought there was a risk of inflationary pressures.
5. International developments	The RBA reviews overseas trends in inflation, economic activity, interest rates, the terms of trade and other events such as the US–China trade war. This is because these developments can affect Australia's AD and economic activity. For example, when there is a slowdown in China or elsewhere and the terms of trade weaken, the RBA is more likely to adopt an expansionary stance to stimulate AD. However, when overseas developments are strongly boosting our expenditure, the RBA might become concerned about the risk of inflation and adopt a more contractionary stance.

After weighing up the sometimes conflicting evidence, the board votes and the RBA may choose to change its monetary policy stance.

4.13 ACTIVITIES

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Check your understanding

1. What is meant by the term *monetary policy stance*?
2. Distinguish a *contractionary* (tighter) monetary policy stance from an *expansionary* (looser) stance.
3. What is the inflation checklist?

Applied economic exercises

1. (a) Recently till 2019, the RBA's cash rate target has been held at a record low level. Identify and outline *four* important factors that the RBA may have taken into account in adopting its current monetary policy stance. **(4 marks)**
- (b) Under what circumstances would the RBA:
 - i. reduce its cash rate target? **(2 marks)**
 - ii. increase its cash rate target? **(2 marks)**
- (c) Distinguish an *expansionary* monetary policy stance from a *contractionary* stance. **(2 marks)**
- (d) Select *one* of the following events and explain why this would be likely to cause the RBA to *tighten* its monetary policy stance, and *one* that would be likely to cause the RBA to *loosen* its stance. **(4 marks)**
 - i. A rise in Australia's unemployment rate from 5 to 6 per cent when inflation was low
 - ii. Large tax cuts and rises in budget outlays
 - iii. Lower inflation rates and official interest rates overseas
 - iv. A slowdown in Australia's rate of GDP growth
 - v. Rising prices for oil, fruit and vegetables
 - vi. The collapse of the property and share markets
 - vii. A very large appreciation of the Australian dollar

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4.14 The focus of monetary policy over the past two years to help regulate aggregate demand and promote key domestic macroeconomic goals

KEY CONCEPT

- the focus of monetary policy from the past two years on the levels of aggregate demand and the Australian government's domestic macroeconomic goals of strong and sustainable economic growth, full employment and low inflation

Domestic economic stability is a desirable or ideal situation for a nation because conditions are likely to help maximise living standards. Domestic stability exists when low inflation (an annual average CPI rise of 2–3 per cent over time), strong and sustainable economic growth (an annual average rate of economic growth of around 3 per cent or a little higher) and full employment (currently a low unemployment rate of around 4.5–5.0 per cent of the labour force), occur simultaneously.

4.14.1 Recent trends in Australia's domestic macroeconomic conditions

During the last two years to 2019, *domestic economic stability* was not fully achieved:

- inflation* was very *slow*, averaging around 1.7 per cent per year — below the RBA's target rate of 2–3 per cent
- economic growth* was too *weak* and below trend, only averaging around 2.2 per cent a year
- unemployment* was relatively *high*, averaging 5.3 per cent, even though it temporarily fell to 5 per cent in March 2019.



4.14.2 How the RBA used monetary policy to change aggregate demand and pursue domestic macroeconomic goals during the past two years

As we know, the RBA uses its *checklist of indicators* to assess economic conditions before it decides its appropriate monetary policy stance. Recently, this list showed that economic growth was too weak, our underutilisation rate was still too high (suggesting unused capacity) and inflation was awfully slow. In addition, the RBA was concerned that global economic activity was slowing, trade war tensions between China and the United States were adversely affecting Australian exporters, and our terms of trade were expected to fall. Weighing up all these considerations, the RBA adopted an extremely *expansionary monetary policy stance*. During the last two years to late 2019, the RBA cut the official cash rate target

from 1.5 per cent (where it had been since August 2016), to 1.25 per cent in June 2019, then to 1.0 per cent in July, and to just 0.75 per cent in October 2019. At the time, the RBA suggested that further reductions might be required to stimulate AD and economic activity.

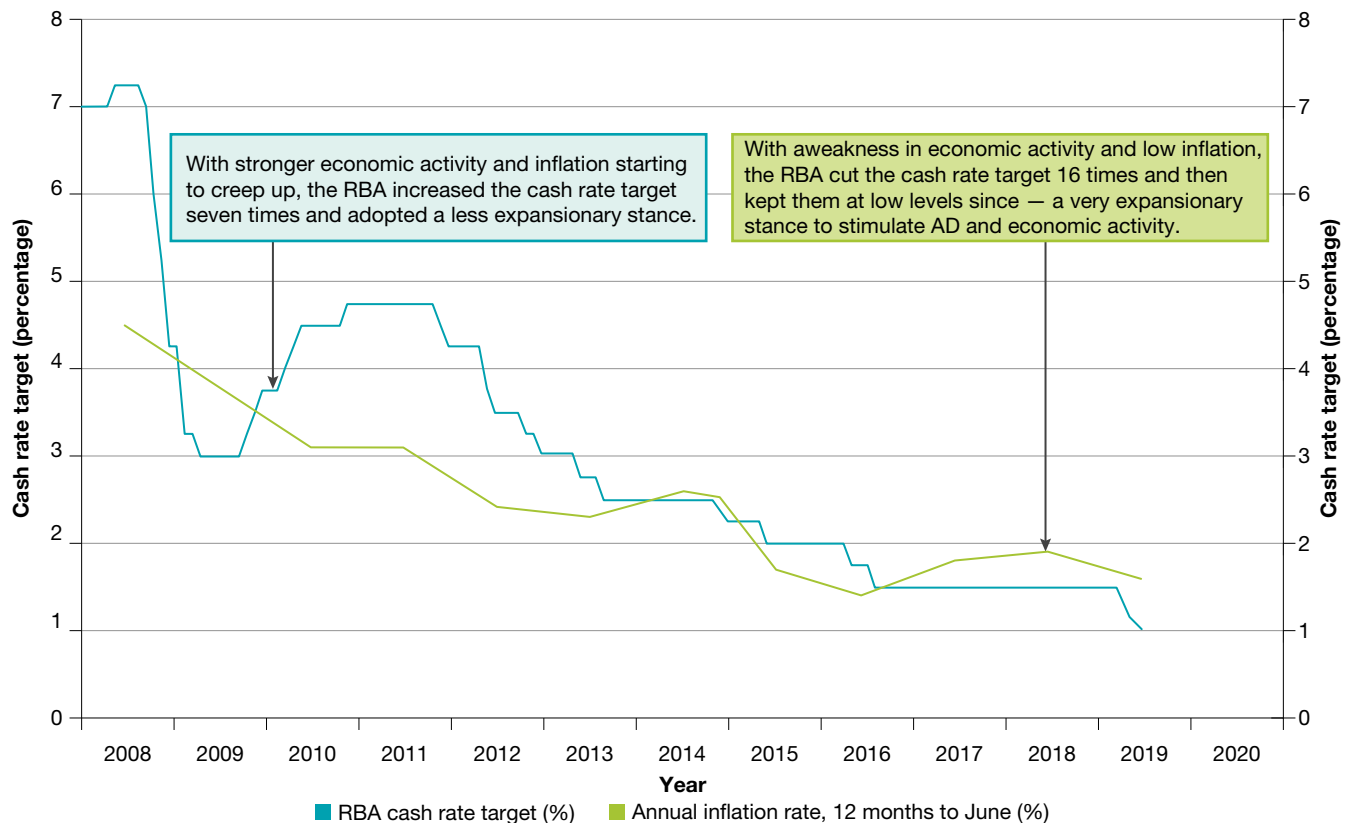
The RBA's *expansionary stance* over the last two years was also required because there was a need to gradually *cut the size of budget deficit* and *return to surplus* in the medium term so as to avoid an excessive build-up of government debt. As a result of the mildly contractionary budgetary stance, monetary policy became the main instrument used to do the heavy lifting, by providing ongoing stimulus to AD and economic activity.

Figure 4.19 clearly shows that the RBA certainly maintained a highly expansionary stance in the past two years. Indeed, there were a total of 16 consecutive cuts in the cash rate target from 4.74 per cent in late 2011 to a record low of just 0.75 per cent by October 2019.

The effects of the RBA's ongoing *expansionary stance* in the two years to 2019, can be illustrated hypothetically on the AD–AS diagram shown in figure 4.20. Starting at AD_0 and GDP_0 , spending, economic growth and employment are relatively weak. This (and the absence of inflation) prompts the RBA to adopt a more expansionary stance and cut the cash rate, which it did five times between January 2016 and October 2019. In itself, this should have helped to stimulate spending towards AD_1 and lift GDP and employment in the direction of GDP_1 (where there is domestic economic stability). There should be little risk of serious inflation (there is only a small rise from P_0 to P_1) because of the existence of considerable unused capacity in the Australian economy at this time.

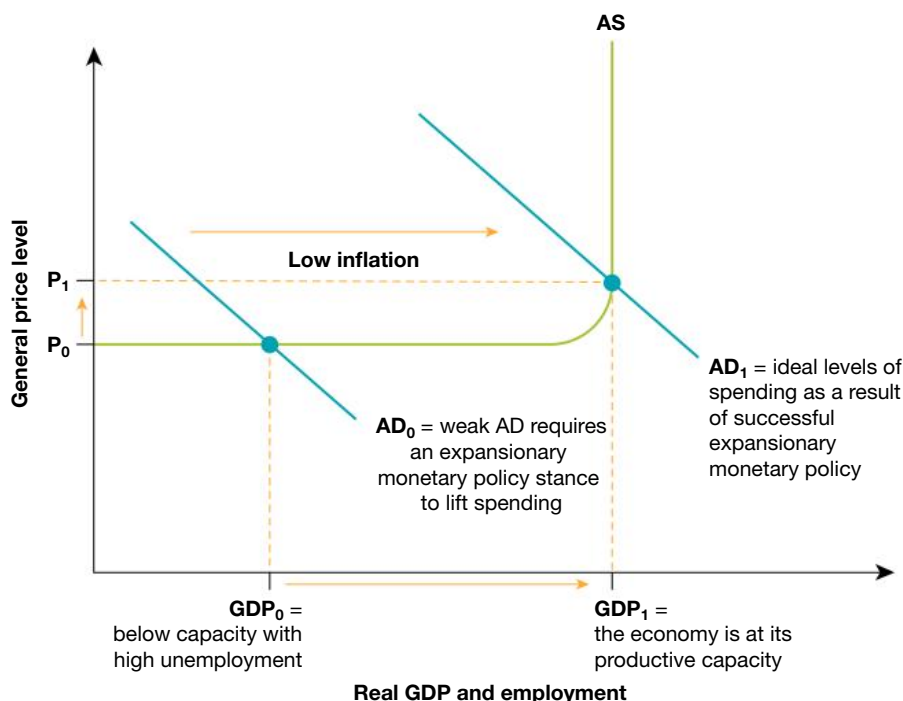
So let us now examine the effects of the reductions in the cash rate target on the Australian government's key domestic macroeconomic goals.

FIGURE 4.19 How the RBA has changed the cash rate countercyclically to help regulate the level of AD and promote domestic economic stability



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FIGURE 4.20 How the RBA's recent expansionary monetary policy stance should help to promote domestic economic stability with higher levels of GDP and employment



The recent effect on the goals of strong and sustainable economic growth and full employment

Seeing that economic growth was weak and below trend, with much unused productive capacity available and hence little risk of serious demand inflation, the RBA was comfortable maintaining its record low cash rate target to just 0.75 per cent over the last two years to October 2019. Low interest rates helped to stimulate AD, strengthen the rate of economic growth and promote fuller employment without adding to inflation, through various *transmission channels or mechanisms*. These included the following:

- *The cost of credit effect.* Low interest rates have recently made households and businesses more willing to take out loans than otherwise, increasing the demand for credit and stimulating C and I spending, and hence AD.
- *The availability of credit effect.* Low interest rates have recently increased the supply of bank credit made available for spending on goods and services because more people than otherwise could meet bank lending criteria and so qualify for bank loans. This helped to stimulate household C and I spending, and hence AD.
- *The cash flow effect.* For some individuals with existing mortgages and overdrafts, the maintenance of recent low interest rates helped to maintain current levels of disposable income remaining after they met their interest repayments. This would not have been possible had rates been increased because there would have been less income available for C and I spending, slowing AD.
- *The exchange rate effect.* Recent low interest rates relative to those in some countries, have contributed to a lower exchange rate for the Australian dollar by slowing capital inflow from abroad. This weakened the demand for our currency and also increased its supply. In turn, the fall in the Australian dollar has helped to stimulate X spending (more injections) while slowing M spending (fewer leakages), again boosting AD.
- *The wealth effect.* The maintenance of low interest rates usually helps to strengthen the demand for assets such as property, pushing up their price higher than otherwise. When this occurs, rising demand and asset prices normally make asset owners feel wealthier, possibly stimulating C spending and AD.

Through a combination of these *transmission mechanisms*, lower interest rates into 2019 helped to strengthen AD and orders and cause stocks to fall, encouraging firms to lift their rates of production and employ more staff. Without this expansionary approach, GDP growth would certainly have been weaker and unemployment higher.

The recent effect on the goal of low inflation

During 2017–18–19, there was *considerable spare capacity* in the Australian economy. This was evidenced by Australia’s relatively high underutilisation rate and low inflation rate. Under these circumstances, low interest rates were most unlikely to add to either demand or cost inflation.

4.14 ACTIVITIES

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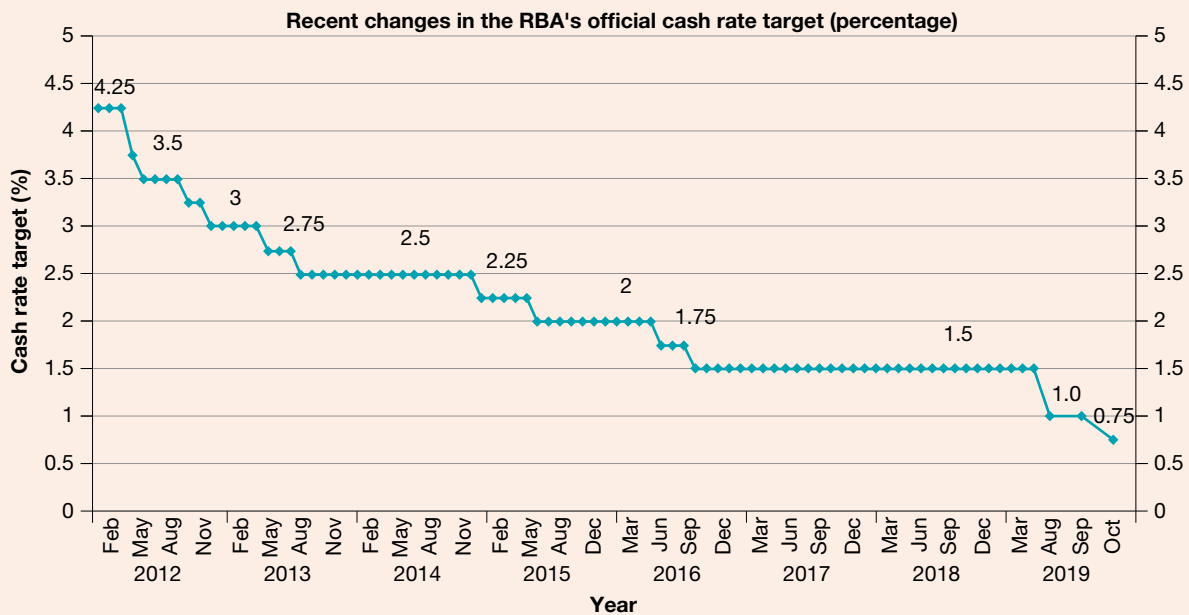
Check your understanding

1. How has monetary policy been used recently to promote Australia's domestic macroeconomic goals?

Applied economic exercises

1. Examine figure 4.21 showing recent changes in the RBA's cash rate target, and read the extract justifying the RBA's monetary policy decision to cut the cash rate to 0.75 per cent (the last reduction up until October 2019).

FIGURE 4.21 Changes in the RBA's official cash rate target (percentage) and the justification for a decision to reduce the cash rate target to just 0.75 per cent in October 2019



Statement by Glenn Stevens, Governor: Monetary Policy Decision

2 July 2019

At its meeting today, the Board decided to lower the cash rate by 25 basis points to 1.00 per cent. ... This easing of monetary policy will support employment growth ...

The outlook for the global economy remains reasonable. However, the uncertainty generated by the trade and technology disputes is affecting investment and means that the risks to the global economy are tilted to the downside. ...

Over the year to the March quarter, the Australian economy grew at a below-trend 1.8 per cent. Consumption growth has been subdued, weighed down by ... low income growth and declining housing prices. Increased investment in infrastructure is providing an offset and a pick-up in activity in the resources sector is expected ... in response to an increase in the prices of Australia's exports...

Employment growth has continued to be strong... There has, however, been little inroad into the spare capacity in the labour market recently, with the unemployment rate having risen slightly to 5.2 per cent. ... A further gradual lift in wages growth ... would be ... welcome Taken together, these labour market outcomes suggest that the Australian economy can sustain lower rates of unemployment and underemployment.

Inflation pressures remain subdued ... Conditions in most housing markets remain soft

Today's decision to lower the cash rate will help make further inroads into the spare capacity in the economy. It will assist with faster progress in reducing unemployment and achieve more assured progress towards the inflation target. The Board will ... adjust monetary policy if needed to support sustainable growth ... and the achievement of the inflation target over time.

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(a) Referring to this statement by the RBA:

- i. Describe the change in the RBA's monetary policy *stance* in July 2019. (3 marks)
- ii. From the extract, identify and explain *three* important reasons from the RBA's checklist of indicators that were used to justify the decision to cut the cash rate target in July 2019. (3 marks)
- iii. Outline how the RBA would have used its *open market operations* at this time to cut the cash rate. (2 marks)
- iv. Identify and explain any *three* important *transmission mechanisms* or channels whereby the RBA's decisions to lower its cash rate target 15 times (from 4.75 per cent in November 2011 to just 1.0 per cent in July 2019) might have helped to promote sustainable economic growth and full employment, consistent with achieving the low inflation target. (3 marks)

(b) What were the main *domestic economic problems* faced by Australia's economy during the past two years? (2 marks)

(c) What were the main local and international *aggregate demand factors* contributing to Australia's domestic macroeconomic conditions at this time? (2 marks)

2. With the help of a labelled AD–AS diagram, describe the *monetary policy stance* adopted by the RBA during the past two years in its attempt to strengthen domestic economic stability and improve living standards. (4 marks)

3. Explain how a reduction in interest rates by the RBA would tend to affect any *three* of the following options. (3 marks)

- The level of private business investment spending
- Residential building approvals and new car sales
- Cost and demand inflation
- Imports of consumer goods and services
- The level of cyclical unemployment

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4.15 Strengths and weaknesses of using monetary policy to achieve the government's domestic macroeconomic goals and the affect on living standards

KEY CONCEPT

- the strengths and weaknesses of using monetary policy to achieve the Australian government's domestic macroeconomic goals and how these goals may affect living standards

Monetary policy has a number of *strengths* and *weaknesses* when it is used to pursue domestic macroeconomic goals and improve living standards.

4.15.1 The strengths of using monetary policy to achieve Australia's domestic macroeconomic goals

Table 4.12 summarises the main *strengths* of using monetary policy to help promote domestic macroeconomic goals and better living standards.

TABLE 4.12 Some strengths of using RBA monetary policy to achieve domestic macroeconomic goals and living standards

Possible strength	Description of strength
1. Short 'implementation' time lag helps make monetary policy flexible and convenient	Because of the three types of time lags associated with the use of many government policies (the lag in 'recognition' of a problem, the lag in 'implementation' of a corrective policy measure and the lag in 'impact'), some government policies, intended to act as countercyclical stabilisers, run the risk of becoming pro-cyclical, reducing stability because they are mistimed. As the RBA normally meets during most months of the year, any change in policy stance could theoretically be <i>implemented</i> quickly if necessary. This strength makes the policy more flexible than discretionary budgetary measures, which are normally changed only once a year. It reduces the risk of the policy becoming pro-cyclical rather than countercyclical, thereby improving stability.
2. Monetary policy is very effective at controlling inflation	Some commentators suggest that monetary policy is most effective in slowing inflation where interest rates are increased to high levels (rather than helping recovery from recession). This is because rises in interest rates designed to slow AD and economic activity are felt directly by borrowers who are <i>forced</i> to find extra money to meet interest repayments on existing loans. This makes it a very effective policy because spending on other things has to be reduced and new borrowing deferred.
3. Monetary policy may have fewer political considerations for the government than budgetary policy	Budgetary policy is implemented by the federal treasurer, who is an elected member of the Australian government. Monetary policy is implemented by the RBA, which is fairly independent of the government. This may potentially reduce the unpopular political or voter fallout from rises in interest rates.

4.15.2 The weaknesses of using monetary policy to achieve Australia's domestic macroeconomic goals

Monetary policy has a number of *weaknesses*. These are summarised in table 4.13.

TABLE 4.13 Some weaknesses of using RBA monetary policy to achieve domestic macroeconomic goals and living standards

Possible weakness	Description of weakness
1. Long 'impact' time lags could make monetary policy pro-cyclical, reducing stability	As mentioned, there can be long time lags associated with the recognition, implementation and impact of many government policies, so measures run the risk of becoming pro-cyclical. While, as noted, changes in monetary policy have quite short <i>implementation lags</i> (given that the RBA board meets regularly most months), they have quite long <i>impact lags</i> . This partly limits the usefulness of monetary policy in correcting short-term or cyclical instability, and makes it more suited to promoting stability in the medium term. For instance, it has been estimated that a 1 per cent change in interest rates ultimately alters GDP by about 0.7 per cent, but that only 40 per cent of this impact will be felt after 12 months, with 80 per cent felt after two years and 100 per cent after three years. Such a long time lag means there is a greater chance that monetary policy could become <i>pro-cyclical</i> and destabilise the economy.
2. Monetary policy is imprecise and blunt in its impact on the economy	There are <i>three</i> potential problems associated with the degree of precision and the ability of monetary policy to target the exact cause of economic problems: • Changes in interest rates by the RBA affect the overall levels of savings, consumption, investment and net exports (via the impact on the Australian dollar). Because the economic impacts of the policy are so widespread, the policy cannot precisely target particular areas of concern. Using higher interest rates to slow consumption, for example, also pulls down beneficial investment spending that supports economic growth. This limits the policy's usefulness. • With interest rate changes, one policy has to fit all states and industries in Australia, regardless of their circumstances. The minerals boom in WA and NT (2009–12), for instance, accelerated inflation, justifying interest rate rises in these states. However, in Tasmania and SA, where unemployment was higher and inflation lower, fewer rises in interest rates were required. Monetary policy is not well suited to a <i>two-speed economy</i>. • Australia has substantially deregulated interest rates so that the RBA does not directly set what banks charge customers. Sometimes banks seem to be less willing to follow changes in the cash rate target set by the RBA, instead, going their own way. For instance, banks may respond to a cut of 0.5 per cent in the RBA cash rate by reducing their interest rates by only 0.4 per cent, choosing instead to widen their lending margins. With the banks choosing partly to go their own way, this could reduce the preciseness of monetary policy.
3. Monetary policy is not a very effective stabiliser on its own in a recession	Critics note that monetary policy is possibly less effective in overcoming <i>recessions</i> when there is pessimism, because cutting interest rates in a recession only works in very <i>indirect</i> ways on the level of spending by making interest repayments cheaper. People are not <i>forced</i> to spend more, whereas with budgetary policy, the government can directly inject more spending. Indeed, extremely low interest rates near zero per cent (as seen recently in Australia, parts of Europe and Japan) have hardly whipped pessimistic borrowers into a spending frenzy. With rates this low, central banks were fairly powerless to do any more to aid recovery and so increased reliance had to be placed on expansionary budget deficits.

Possible weakness	Description of weakness
4. Monetary policy may be undermined by budgetary policy	When the economy is weak and the government decides to run budget deficits to stimulate AD, financed by borrowing through the sale of government bonds domestically, this can increase the demand for credit in local financial markets. As an unintended result, this puts upward pressure on local interest rates at a time when it would be better to have lower interest rates to boost spending. Such higher interest rates can lead to the problem of <i>crowding-out</i> private sector C and I spending, thereby slowing the economy. This would undermine the effectiveness of monetary policy. In reverse, during a boom where there is a budget surplus designed to slow AD and economic activity, if the government decides to repay previous debt, this can lower interest rates and lead to the problem of <i>crowding-in</i> by borrowers, thereby adding to inflation and instability.
5. Goal conflicts	Sometimes monetary policy cannot be used for pursuing one particular government economic goal, because it can conflict with the pursuit of another objective. For example, in cutting the cash rate to help strengthen the goals of strong economic growth and full employment, sometimes this can add to inflation — there is a trade-off.
6. Psychological constraints	The success and strength of monetary policy depends partly on the prevailing level of <i>confidence</i> . For instance, generally weak consumer and business confidence would tend to reduce the expansionary effects of a reduction in the cash rate. In reverse, a contractionary stance adopted by the RBA can be made less effective than expected in slowing the level of AD if confidence is strong.

4.15 ACTIVITIES

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Check your understanding

1. What are the main *strengths* of using monetary policy to help promote domestic economic stability?
2. What are the main *weaknesses* of using monetary policy to help promote domestic economic stability?

Applied economic exercises

1. (a) Assume hypothetically that the RBA decided to *increase* the cash rate target because it was concerned about the rise in inflation. Identify and explain *two* important *weaknesses* or constraints that may be likely to limit the effectiveness this policy. **(3 marks)**
 (b) Assume hypothetically that the RBA decided to further *reduce* the cash rate target to because economic growth was slowing and unemployment rising. Identify and explain *two* important *weaknesses* or constraints that may be likely to limit the effectiveness this policy. **(3 marks)**
2. (a) Assume hypothetically that the RBA decided to *increase* the cash rate target because it was concerned about the rise in inflation. Identify and explain *one* important strength of this policy as a stabiliser. **(2 marks)**
 (b) Assume hypothetically that the RBA decided to further *reduce* the cash rate target to because economic growth was slowing and unemployment rising. Identify and explain *one* important strength of this policy as a stabiliser. **(3 marks)**

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4.16 Review

4.16.1 Summary

The course requires that you understand the nature and operation of both budgetary and monetary policies as aggregate demand policies used to promote domestic macroeconomic goals.

The nature of government budgetary policy as an aggregate demand measure

- Aggregate demand (or macroeconomic) policies include both budgetary (fiscal) and monetary policies.
- *Budgetary or fiscal policy* relates to anticipated federal government revenues or receipts (such as direct taxes including personal and company tax, indirect taxes such as sales, GST and excise tax and non-tax revenue) and expenses or outlays (such as government consumption and investment spending on health, defence and education, as well as welfare and other transfers), broken down into current spending (G_1), capital spending (G_2) and transfer payments for the coming year. It is an aggregate demand management instrument designed to regulate the level of AD in a countercyclical way and thereby help to achieve domestic economic stability (namely, strong and sustainable economic growth, full employment and low inflation) and improve living standards.
- The *budget outcome* depends on the total value of receipts against the total value of outlays. There are three situations:
 - a deficit (receipts are less than outlays), normally funded by a rise in government debt or borrowing, either locally or overseas, through the sale of government bonds
 - a surplus (receipts are greater than outlays); the money can be used to retire debt, build up government savings with the RBA for a rainy day, or create special savings funds
 - a balance (receipts are equal to outlays).
- The budget outcome is especially affected by domestic rates of GDP growth, overseas economic activity, the TOT, the Australian dollar, changes in unemployment, wages growth, and political conditions. Sometimes the forecasts and assumptions underlying the budget can change dramatically during the course of the year, affecting the actual budget outcome.
- The *budget stance* can be expansionary, contractionary or neutral. It relates to whether the budget's intention is to boost or slow AD and economic activity.
 - A bigger budget deficit or a smaller surplus (expressed as a percentage of GDP) is usually seen as *expansionary*, designed to stimulate AD and economic activity.
 - A smaller deficit or a bigger surplus is normally seen as *contractionary*, designed to slow AD and economic activity.
 - The medium-term operating aim of budgets in recent years is to return to a budget surplus when conditions permit.

How budgets, as an aggregate demand instrument, can help to achieve low inflation, full employment, and strong and sustainable economic growth

- In theory, *budgetary policy can help improve domestic economic stability* (where strong and sustainable economic growth, low inflation and full employment are achieved simultaneously) by regulating the level of AD in a *countercyclical* manner through the operation of two types of budget stabilisers:
 - *automatic stabilisers* involving changes in the level of tax receipts and welfare outlays are triggered by cyclical changes in economic activity and require no deliberate government decision
 - *discretionary stabilisers* involve deliberate changes that alter the level of receipts (such as by changes in tax rates, the introduction of new taxes or the abolition of existing taxes) relative to the level of budget outlays (e.g. announcements about changed funding for infrastructure projects, health and education).
- During a *recessionary downswing* in economic activity, a *more expansionary* stance to boost AD is usually applied as a result of automatic and discretionary cuts in budget receipts, and automatic and discretionary rises in budget outlays. Typically, this involves an increase in the size of the budget

deficit. The aim is to stimulate AD and economic activity, and reduce cyclical unemployment. Again, domestic economic stability and living standards should be improved.

- During a *strong upswing* in AD and economic activity where there are inflationary pressures, a *more contractionary* budgetary stance is progressively applied to help slow AD to sustainable rates. Typically, this entails switching gradually from a deficit to a larger budget surplus by automatic and perhaps discretionary rises in receipts relative to outlays. The new stance helps to slow AD, moderate the inflationary upswing and improve domestic economic stability and living standards.
- Due to the GFC and ensuing events to 2019, the federal government ran up over \$360 billion in *budget deficits* and so far has been unable to return the budget to surplus as frequently promised due to weaker than expected economic activity, lower commodity prices and terms of trade, higher unemployment, lower than expected company profits and personal tax collections, the slowdown in China, and political obstacles in the Senate that slowed fiscal consolidation and the repair of the budget.
- When used to promote domestic stability, budgetary policy has various strengths and weaknesses:
 - *Strengths* include short time lags for automatic stabilisers making them very effective, the ability to precisely target specific areas of weakness in the economy, their directness in affecting spending and the possibility of beneficial aggregate supply-side effects.
 - *Weaknesses* include long implementation and impact time lags for most discretionary measures which can cause them to become pro-cyclical; some inflexible outlays in the budget that cannot easily be changed; financial constraints on higher discretionary outlays or cuts in tax rates when used as stabilisers; the possibility of undermining monetary policy; and strong political considerations or constraints that limit the options available.

What is the nature of monetary policy?

- *Monetary policy* is an aggregate demand policy and involves the RBA changing *interest rates* (the official cash rate target) to affect the cost, availability and demand for credit. By changing levels of saving, C, I and net X spending, it can be used to regulate AD and promote Australia's three key domestic macroeconomic goals and improve living standards.
- *Official interest rates* (the *cash rate target*) can be changed by the RBA using its *open market operations* (OMO) in the short-term/overnight money market. This entails the RBA buying back/repurchasing government bonds or selling government bonds to affect the supply of cash, bank liquidity and general interest rates.
- The *medium-term operational aim of monetary policy* involves *inflation targeting* or the pursuit of low inflation (an average annual inflation rate or CPI target of around 2–3 per cent over time). Once the goal of low inflation has been achieved, other aims including strong and sustainable economic growth and full employment often become the focus for RBA policy as seen recently.
- Monetary policy is regarded as an *aggregate demand management policy* because changes in interest rates have the capacity to affect C, I and even net X as components of AD, through various *transmission mechanisms* or channels.

Using monetary policy to pursue the government's domestic macroeconomic goals

- Theoretically, monetary policy can help *increase domestic economic stability* if it is applied as a *countercyclical* measure and used to steady the rate of increase in AD during booms and recessions. Stabilisation involves a change in monetary policy's *stance* or whether it is intended to be expansionary (looser), contractionary (tighter) or neutral in its impact on AD and activity.
- Using a *looser monetary policy during a recessionary downswing*: The RBA's monetary policy stance is eased/loosened/becomes more expansionary to stimulate AD when inflation is below the 2–3 per cent target, and GDP growth and employment are weak. There are several steps involved:
 - The RBA announces the cut in the cash rate target and justifies its decision using a checklist of indicators.
 - The RBA conducts open market operations (OMO) in the short-term money market involving its net repurchases of government securities from financial institutions.

- The return of cash/liquidity to the short-term money market causes a surplus of credit and thus brings down interest rates that then ripple out to affect other interest rates in the capital market.
- The various transmission mechanisms kick in to boost AD and economic activity.
- Using a *tighter monetary policy during an inflationary upswing*: The RBA's monetary policy stance is usually tightened/made more contractionary to slow AD when inflation approaches or starts to exceed the 2–3 per cent inflation target. This tightening process occurs through several steps:
 - The RBA announces the rise in the cash rate target and justifies its decision using a checklist of indicators.
 - The RBA conducts open market operations (OMO) in the short-term money market involving its net sales of government securities to financial institutions.
 - The withdrawal of liquidity from the short-term money market causes a shortage of credit and thus drives up interest rates that then ripple out to affect other interest rates in the capital market.
 - The various transmission mechanisms kick in to slow AD and economic activity.
- *Transmission mechanisms* are used to help bring about a rise or fall in the level of AD and economic activity, and better achieve domestic economic stability.
 - Following a *cut in the cash rate* in a slowdown, various transmission mechanisms help *stimulate* AD and economic activity. Lower interest rates cause a rise in the demand for credit to finance C and I, lead to an increase in the supply of credit, boost the cash flow available for household spending, add to a feeling of being wealthier and weaken the exchange. Together these channels strengthen AD, economic growth and employment, improving our general living standards.
 - Following a *rise in the cash rate* during a period of inflation, various *transmission mechanisms* help to *slow* AD, domestic economic activity. Higher interest rates cause a decrease in the demand for credit used to finance C and I, lead to a decrease in the supply of credit, reduce the cash flow available for household spending, weaken the feeling of wealth and strengthen the value of the Australian dollar in the foreign exchange market. Together these channels slow AD, economic growth and employment to sustainable levels, improving our general living standards.
- Recently, economic growth has been fairly weak and below trend, unemployment has been higher than normal and inflation has been very low. Hence, monetary policy during this period has been *highly expansionary* (particularly since at this time, there have been efforts to cut the deficit and return the budget to surplus). To this extent, it is likely that the 16 reductions in the cash rate target to October 2019 helped to stimulate AD and hence reduce domestic instability and improve living standards.
- Monetary policy has both *strengths* and *weaknesses* when used to pursue domestic economic stability:
 - Strengths include short time lag in *implementation*, greater effectiveness in controlling inflation, and possibly less political fallout from a tightening of the policy stance (relative to that with a tighter budgetary policy involving higher taxes or less outlays).
 - Weaknesses include quite long time lags in policy *impact* (up to three years for the full impact of a cut in interest rates to be felt) perhaps leading to the risk of the policy change becoming pro-cyclical, its bluntness or imprecision in pinpointing and correcting problem areas in the economy, and more limited effectiveness than budgetary policy in recessions due to its indirectness in influencing AD.

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4.16.2 Key terms

Aggregate demand management policy includes budgetary and monetary policy and is used by the government to influence the level of spending, economic activity and the achievement of key domestic macroeconomic goals.

Automatic stabilisers (also called cyclical stabilisers) are changes in tax revenues collected and welfare outlays that are built into the budget and operate correctly and spontaneously in a countercyclical way to help stabilise AD and flatten the business cycle, without the federal treasurer deliberately changing their level or announcing new policies.

Availability of credit (or transmission channel) alters spending because interest rates affect the willingness of banks to lend, the number of clients who qualify for loans and the availability or supply of credit. This alters spending and economic activity.

Balanced budgets occur when the total value of revenue equals the total value of expenses.

Bracket creep occurs when recipients of rising income gradually move into higher marginal income tax brackets, which automatically increases their tax burden.

Budget expenses or outlays in the budget are expenses involving, for example, the provision of goods and services for the community and transfers like welfare benefits.

Budget outcome represents the difference between the total value of budget revenues and the total value of budget outlays. The budget outcome may be a balanced budget, deficit or surplus.

Budget repair refers to tax and outlay strategies designed to reduce the deficit and return the budget to surplus in the medium term.

Budget revenues are the federal government's incoming receipts of money that pay for budget outlays. Taxation, for example, is a major source of revenue for the government.

Budget stance refers to whether the budget is neutral, expansionary or contractionary in its impact on the level of AD and economic activity.

Budget surplus represents a situation where the total value of government outlays is less than the total value of its receipts for a period of time. Budget surpluses occurred between 2006–07 and 2007–08, and perhaps again in 2019–20. Larger surpluses may have a contractionary effect on aggregate demand and hence on economic activity, and are suitable for slowing inflationary booms. See aggregate demand management policies; automatic stabilisers; contractionary budget; discretionary stabilisers.

Budgetary policy is an aggregate demand measure and relates to changes in the anticipated levels and composition of government revenues (e.g. personal income tax, company tax) and expenses (e.g. outlays on welfare or education) for the upcoming year.

Cash flow effect (or transmission channel) is the impact of changes in interest rates on the level of discretionary spending on other goods and services by households with existing loans like home mortgages and overdrafts. This affects consumption spending, AD and economic activity.

Contractionary budgets (e.g. a rise in the surplus as a percentage of GDP) seek to slow AD and economic activity and thereby reduce inflationary pressures.

Cost of credit effect (or transmission channel) influences the demand for credit because it changes the cost of borrowing and repaying debt, thereby affecting the level of credit-sensitive spending, AD and economic activity.

Countercyclical application of monetary policy means that during a slowdown the RBA will cut interest rates to increase AD and lift economic activity, but during an inflationary upturn or boom, it will raise interest rates to slow AD and control inflation.

Countercyclical budgetary policy adopts an expansionary stance to increase AD in a slowdown and a contractionary stance to slow AD during an inflationary upturn, thereby helping to stabilise the level of economic activity.

Crowding out occurs in a situation where the government, for example, runs a deficit budget in a recession with the intention of stimulating spending to help promote recovery. Unfortunately, if the deficit is financed by borrowing credit locally, upward pressure is put on domestic interest rates that will push out private sector borrowers and undermine the efforts of monetary policy in promoting a recovery.

Discretionary stabilisers in the budget are the *deliberate* changes in tax rates, the tax mix and the direction and composition of budget outlays specifically announced by the federal treasurer to help steady economic activity in response to severe adverse developments.

Exchange rate effect (or transmission channel) is where changes in domestic interest rates relative to those abroad affect levels of capital inflow and outflow, changing the demand and supply of the Australian dollar and thus the exchange rate. In turn, when the exchange rate changes, this affects the levels of export and import spending, AD and economic activity.

Expansionary budgets seek to stimulate AD and economic activity, and typically involve a rise in the size of the budget deficit expressed as a percentage of GDP.

Fiscal balance refers to a strong and sustainable financial position for the government's budget where, over the medium term (such as the duration of the business cycle), the budget surpluses generated in booms are more than sufficient to pay for the budget deficits in recessions without the need to borrow or commit future generations to heavy debt repayments.

Fiscal consolidation refers to budget measures designed to reduce the size of the budget deficit by increasing tax and/or decreasing outlays.

Government capital spending (abbreviated as G_2) includes government investment spending in the budget to facilitate the production of goods and services for the community.

Government current spending (abbreviated as G_1) includes the day-to-day expenses or budget outlays of the government on the purchase of consumer goods and services (such as the payment of staff in the public sector).

Headline balance refers to the difference between the total cash value of budget receipts minus the cash value of total outlays from all sources, without the removal of items that are affected by one-off events such as asset sales and debt repayments.

Inflation targeting means that the RBA's operational goal is to apply monetary policy to achieve an annual average inflation rate of between 2–3 per cent over time.

Interest rates refer to the annual cost of borrowing credit or the annual return on invested savings. Rates are closely related to the nation's inflation rate and are largely determined at equilibrium in financial markets by the forces of supply (by savers) and demand for credit (by borrowers).

Monetary policy is a branch of macroeconomic policy operated by the RBA involving changes in interest rates to alter the cost, availability and demand for credit. It is designed to countercyclically regulate the level of AD and economic activity.

Monetary policy stance relates to whether the RBA wants to use interest rates to slow or to accelerate the level of AD and economic activity. The cash rate level is used to determine the stance. Currently, a cash rate above about 2.5 per cent, for example, is normally regarded as a contractionary stance, but a cash rate below perhaps 2.5 per cent is currently seen as an expansionary stance.

Official cash rate is the interest rate target set by the RBA for the short-term money market and indicates its monetary policy stance.

Open market operations relate to the strategies of the RBA in the short-term money market involving the sale or repurchase of government securities or bonds with the aim of pushing up or lowering the cash rate.

Pay-as-you-go (PAYG) tax is a direct progressive tax levied on incomes received by individuals at marginal rates of zero per cent up to 45 per cent (2019–20–21).

Pro-cyclical policies are discretionary changes in the budget (e.g. perhaps infrastructure projects) that increase economic instability due to their long time lags in recognition, implementation or impact. They are the opposite of countercyclical policies.

Short-term money market is a specialist financial institution where money is borrowed and lent for short periods. In this market, RBA market operations affect the supply of cash and, in so doing, influence the cash rate.

Time lags in policy can be a weakness and are of *three* types: *recognition lag* for the problem due to the existence of lagging indicators like GDP; *implementation lag* in activating the policy; and *impact lag* in waiting for the policy to actually boost or slow AD and economic activity.

Transmission mechanisms for monetary policy are the various ways that changes in interest rates work to influence AD and the level of economic activity. These include the cost of credit effect, the cash flow effect, the availability of credit effect, the exchange rate effect, the wealth effect and the inflationary expectations effect.

Underlying budget outcome represents the headline balance after subtracting the value of one-off volatile items, such as asset sales, special loans to state governments or debt repayments by other governments.

Wealth effect is a transmission mechanism resulting from a change in interest rates. For instance, a cut in interest rates usually helps to strengthen the demand for assets such as property, pushing up their price. When this occurs, rising asset prices makes asset owners feel wealthier, stimulating C spending and AD.

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4.16 Review questions

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4.16 Exercise 1: Multiple choice questions

- As an aggregate demand policy, budgetary measures may be used to help:
 - bring about domestic economic stability by managing the growth in AD.
 - slow inflation.
 - promote a strong and sustainable rate of economic growth and low unemployment.
 - achieve all of the above.
- Aggregate demand or macroeconomic *budgetary policies* applied countercyclically to help improve domestic economic stability usually involve:
 - a contractionary policy stance during downturns and recessions.
 - an expansionary policy stance during inflationary booms or upswings.
 - introducing changes in receipts relative to expenses to help maintain a steady growth in the level of AD so that total spending levels are neither excessive nor inadequate.
 - changing interest rates.
- Which of the following is *most* correct? A budget *deficit* (such as occurred between 2008–09 and 2018–19) is where:
 - the total value of government receipts is more than the total value of government expenses.
 - the total value of government expenses is less than the total value of receipts.
 - the total value of government asset sales and taxes is more than the total value of government consumption (G_1) and government investment (G_2) spending.
 - the total value of government receipts is less than the total value of government expenses.
- The *main* difference between the *headline* budget balance and *underlying* budget balance is that:
 - the underlying balance excludes one-off volatile items like asset sales and interest repayments by state governments.
 - the headline balance excludes transfers like welfare outlays, which vary from year to year.
 - the underlying balance removes the effect of automatic stabilisers.
 - the underlying balance removes the impact of inflation on the values of receipts and outlays.
- Concerning budgetary policy, which statement is generally *false*?
 - A deficit budget may be financed by foreign and/or local borrowing.
 - A larger deficit budget as a ratio to GDP may stimulate domestic economic activity and, if the economy is already at its capacity, this may cause demand inflation.
 - A deficit budget in a recession financed by local borrowing from the financial sector may unintentionally tend to drive up domestic interest rates, causing a possible degree of conflict with RBA efforts to run an expansionary monetary policy with lower interest rates.
 - In itself, the shift towards a bigger surplus budget or a smaller deficit is generally regarded as expansionary, and should help to lower unemployment and accelerate economic growth.

6. Between 2013–14 and 2019–20, the federal government initially planned to convert a headline deficit of \$48.5 billion into a small surplus of \$7.1 billion. Theoretically, this could have been achieved using:
 - A. increased asset sales, automatic increases in tax collections and bracket creep, and the introduction of discretionary new taxes.
 - B. a discretionary reduction in government consumption (G_1) and investment (G_2) spending.
 - C. automatic and discretionary cuts in welfare outlays and other transfer payments.
 - D. all of the above.
7. The treasurer predicted that the size of the budget deficit between 2014–15 and 2018–19 would decrease in absolute terms and as a percentage of GDP. In itself, this expected change in budget stance would generally be regarded as:
 - A. relatively less expansionary.
 - B. relatively less contractionary.
 - C. relatively neutral.
 - D. neither expansionary nor contractionary.
8. What factor(s) might theoretically help to explain why the small budget surplus that the treasurer predicted would be achieved ended up as a budget deficit; or why the actual deficit ended up being nearly twice as big as that projected; or why the predicted surplus finished as a budget deficit?
 - A. More rapid inflation and faster economic growth than initially expected
 - B. Lower unemployment than initially expected
 - C. An unexpected boom among our trading partners overseas
 - D. Lower terms of trade, along with slower levels of domestic economic activity and higher rates of unemployment than initially expected
9. Which statement is *correct*? An increase in G_2 spending on public health, education, housing and transport will normally tend to:
 - A. decrease cyclical unemployment.
 - B. decrease job vacancies.
 - C. decrease demand inflation in the short term.
 - D. decrease the rate of economic growth by slowing AD.
10. Which of the following does *not* explain why the actual cash surplus for a year might be *smaller* than that originally projected when the budget was first announced by the treasurer?
 - A. There was an unexpected collapse in consumer and business confidence.
 - B. There was a severe recession in China and a drop in our terms of trade.
 - C. The Senate failed to approve new budget revenue measures.
 - D. Government efficiency measures reducing the level of budget outlays were much more effective than expected.
11. Which of the following fiscal measures would be *most* appropriate for *reducing* cyclical unemployment in Australia?
 - A. A rise in the budget surplus as a ratio to GDP
 - B. Large-scale public works combined with rises in income tax rates
 - C. A rise in the ratio (percentage) of budget outlays to GDP and reduction in the ratio (percentage) of receipts to GDP
 - D. Both (A) and (B) are appropriate.
12. Which statement about budgetary policy is generally *incorrect*?
 - A. Most revenue collected from taxes, along with government outlays on welfare benefits, tend to act automatically as countercyclical stabilisers of AD.
 - B. Rises in personal and company tax rates would add to demand inflation pressures in an economy operating near or at its productive capacity.
 - C. Cuts in rates of personal income tax designed to make a surplus budget less contractionary may lead to increased demand inflation if the economy has little spare capacity.
 - D. An increase in the GST rate to 15 per cent in the future by the federal government on behalf of the states could help return the budget to surplus, but may slow economic activity and increase the tax burden on the poor.

13. Which of the following fiscal measures is *most likely* to slow demand inflation in the short to medium term?
 - A. Tariff cuts
 - B. A reduction in the budget surplus
 - C. Increased cash subsidies paid to local producers
 - D. Increases in government capital expenditure (G_2) and rises in indirect taxes
14. Which of the following budgets is *likely* to be most expansionary in its impacts on AD and domestic economic activity?
 - A. A budget where a larger proportion of outlays is spent overseas
 - B. A budget where the deficit is financed by borrowing from the RBA and not from the domestic private sector
 - C. A budget involving a rise in the domestic surplus
 - D. A budget where total receipts rose by 15 per cent relative to outlays, which rose by 5 per cent against the previous year
15. Which statement is generally *incorrect* for an economy experiencing a prolonged boom?
 - A. Discretionary rises in personal income tax rates would be appropriate.
 - B. Increased public infrastructure would occur automatically during the upswing to improve domestic stability.
 - C. Company tax collections would tend to rise automatically.
 - D. Revenues collected from personal and sales taxes would tend to rise automatically without any deliberate change in the applicable tax rates.
16. Faced with a large and deteriorating *structural budget deficit* and no prospect of a return to surplus in the medium or long term, the treasurer might have to consider:
 - A. increasing taxes on individuals and firms, even though this may prove politically unpopular.
 - B. trying to slow or reduce budget outlays as a ratio to GDP, especially current expenses.
 - C. reforming the taxation system and looking for budget savings measures.
 - D. all of the above.
17. Which of the following budgetary measures has an impact on the rate of economic growth which *differs* from the other three?
 - A. Cuts in marginal tax rates on individuals
 - B. Increased outlays on infrastructure to \$100 billion over the next 10 years
 - C. Increased tax rates on superannuation for those with contributions exceeding \$1 million and the abolition of capital gains tax concessions
 - D. A one-off \$1000 cash bonus for all welfare recipients
18. Which budgetary measure is *most likely* to have an impact on the level of AD and the rate of demand inflation which *differs* from the other three?
 - A. Increasing pension rates for the aged
 - B. Raising the top rate of PAYG income tax from 45 to 47 per cent
 - C. Cutting excise taxes on alcohol and reducing the company tax rate for small and medium-sized firms from 30 to 25 per cent
 - D. Cutting the size of the budget surplus from \$20 billion to \$5 billion
19. Direct and indirect taxes are two ways used to raise government revenue. Which statement about these is *least correct*?
 - A. Increasing direct tax rates is less likely to add to the inflation rate, unlike increasing indirect taxes.
 - B. Rises in indirect taxes can appear less obvious to voters than rises in income tax.
 - C. The luxury car tax for passenger vehicles is a direct tax, while the Medicare levy is an indirect tax.
 - D. Direct taxes raise more revenue in the federal budget than indirect taxes.

20. Contractionary budgets involving rises in tax rates and cuts in outlays on government services would probably *not* adversely affect:
- A. the unemployment rate.
 - B. the inflation rate.
 - C. the rate of economic growth.
 - D. the underutilisation rate of labour.

21. Which of the following is regarded as an actual outlay but *not* classified as an item of government spending in the budget?
- A. The Medicare levy
 - B. Welfare support and assistance to industry
 - C. Health outlays
 - D. Payment of wages and salaries for politicians and government employees

22. Examine the hypothetical data shown here for a country (similar to Australia). As treasurer, you are working on the next budget.

Other things being equal, which future combination of budgetary policies to be announced in 2021 would *best* help to promote *domestic economic stability* given the trends in economic conditions for the two years shown?

Indicator	2019	2020
Unemployment rate (percentage)	5.0	6.7
Inflation rate (percentage of CPI)	2.7	1.5
GDP (percentage)	3.2	1.3

- A. A rise in the ratio of budget receipts to GDP and a fall in the ratio of budget outlays to GDP.
 - B. A significant reduction in the budget deficit as a ratio of GDP and then a return to surplus.
 - C. An expansionary budget involving a switch to a larger discretionary deficit and a bigger overall budget deficit as a ratio to GDP.
 - D. Running a bigger budget deficit financed by government borrowing through the increased sale of government bonds domestically.
23. Which of the following does *not* normally operate as an *automatic* stabiliser in the budget during a slowdown?
- A. PAYG
 - B. GST
 - C. Outlays on health
 - D. Payments to the unemployed
24. Which of the following would generally *decrease* the size of the structural budget deficit (as opposed to the cyclical deficit)?
- A. Rises in the tax-free threshold for personal income from \$18 000 to \$24 000
 - B. Higher company profits made by exporters due to a favourable move in our TOT
 - C. A fall in the number of people unemployed from 800 000 to 650 000
 - D. A rise in the pension access age from age 64 to 67
25. The *underlying* budget outcome best represents:
- A. the difference between government receipts and outlays or expenses.
 - B. the headline budget outcome minus the value of one-off items such as the privatisation of the NBN and debt repayment by Tasmania.
 - C. the difference between the values of government tax and its annual spending.
 - D. structural changes in receipts and outlays.
26. The *medium-term* operating aim of recent budgets is:
- A. to repair the budget.
 - B. to return to surplus at a prudent rate as conditions permit.
 - C. to slow inflation to a target rate of 2–3 per cent over time.
 - D. to raise budget receipts as a percentage of GDP.

27. Which of the following is an example of a *discretionary* fiscal policy?
- A. A rise in the cash rate of interest during a recovery
 - B. A reduction in the tax rate for small to medium-sized businesses from 30 to 25 per cent
 - C. Reduced revenue collected from personal income tax due to the rise in unemployment
 - D. A rise in revenue from import duties during the recovery in economic activity
28. Assume the treasurer was required to deliver a *balanced budget* every year, despite the existence of the normal business cycle. This could require:
- A. collecting higher taxes in a slowdown.
 - B. increasing outlays in a boom.
 - C. that the budget becomes pro-cyclical.
 - D. all of the above.
29. Monetary policy refers to:
- A. microeconomic measures introduced by the Treasury.
 - B. aggregate demand management measures of the RBA.
 - C. measures that mostly affect the flows of credit between borrowers and lenders and the level of expenditure.
 - D. both (B) and (C).
30. Higher domestic interest rates will especially tend to:
- A. slow cost inflation.
 - B. slow demand inflation.
 - C. discourage overseas borrowing and weaken the exchange rate for the Australian dollar.
 - D. decrease unemployment.
31. The RBA cut the cash rate target 15 times to 1 per cent between late 2011 and September 2019. This is likely to have contributed to the overall *depreciation* of the Australian dollar by around 20 per cent against the US dollar between 2013 and 2019. In itself, this depreciation would *tend* to:
- A. make Australian exports of goods and services cheaper in the United States relative to the price of imports in Australia, stimulating AD and domestic economic activity.
 - B. decrease the burden of repaying interest on the foreign debt denominated in US dollars.
 - C. cause a rise in the unemployment rate, especially in our export and import-competing sectors.
 - D. slow the growth rate in GDP.
32. Which monetary policy action is *likely* to be most *expansionary* on the level of AD and economic activity?
- A. The RBA increases its net sales of government bonds in the short-term money market by \$2 billion.
 - B. The RBA increases its net repurchases of government bonds in the short-term money market by \$3 billion.
 - C. The RBA decreases its net sales of government bonds in the short-term money market by \$1 billion.
 - D. The RBA decreases its net repurchases of government bonds in the short-term money market by \$6 billion.
33. The *transmission mechanism(s)* following a *cut* in the official cash rate set by the RBA from 1.5 to 1.0 per cent could involve:
- A. an increase in the demand for and the availability of credit.
 - B. an increase in the cash flow for some households with existing loans.
 - C. some households feeling wealthier and more confident to spend, along with a likely depreciation in the exchange rate.
 - D. all of the above.
34. Faced with high and rising cyclical unemployment and no threat of inflation, the RBA could:
- A. undertake operations in the short-term money market and adopt a more accommodating stance.
 - B. increase repurchases on government bonds in the overnight money market.
 - C. further reduce the cash rate target to help drive the Australian dollar downwards.
 - D. try all of the above measures.

35. Between 2016 and 2019, the RBA reduced the official cash rate target to a record low. The *most likely* reason for this strategy was that:
- A. the underutilisation rate was low.
 - B. the inflation rate was mostly below 2 per cent, the unemployment rate tended to be too high and job vacancies were relatively weak.
 - C. economic activity was acceptable and there was little unused capacity.
 - D. domestic expenditure and confidence were strong.
36. Which of the following could tend to *impair* the effectiveness of an *expansionary* monetary policy stance involving large reductions in the cash rate?
- A. The existence of consumer and business pessimism
 - B. Large expansionary budget deficits funded by the sale of government bonds in the domestic capital market
 - C. Very high levels of unemployment and negative GDP growth, typical of recession rather than a boom
 - D. All of the above
37. Following a large *rise* in interest rates by the RBA, it is *likely* that:
- A. demand inflation will slow, partly due to reduced consumption and investment spending.
 - B. a higher dollar could help slow cost inflation.
 - C. inflationary expectations should tend to be crushed.
 - D. all the above may apply.
38. The most *likely* reason why the RBA *lowered* interest rates between 2016 and 2019 was that:
- A. the level of economic activity abroad was rising strongly.
 - B. our terms of trade had just started to recover.
 - C. there was a threat from a worsening price bubble in the Sydney and Melbourne property markets.
 - D. to hold down government debt levels, the budget stance needed to become less expansionary.
39. Examine the hypothetical *checklist of indicators* shown in table 4.14 prepared for the government and central bank of a country similar to Australia.

TABLE 4.14 Checklist of economic indicators used by a central bank

Checklist indicator	2019–20	2020–21
Growth in national expenditure (percentage)	2.2	7.0
Chain volume GDP growth (percentage)	2.5	5.1
Headline CPI (percentage)	2.7	3.6
Underlying CPI (percentage)	2.5	3.9
Budget outcome (\$ billion)	10.1	15.4
Cash rate target (percentage)	4.5	5.0
Global GDP growth (percentage)	2.5	3.1

What mixture of budgetary and monetary policy best represents the actions that should be taken on the basis of the trends shown in this information?

- A. Further increase the budget surplus, combined with open market operations involving heavy central bank repurchases of government bonds in the short-term money market.
- B. Increase the cash rate target, raise PAYG tax rates and slow budget outlays.
- C. Increase the cash rate target to encourage the Australian dollar to appreciate, combined with reducing budget outlays on imports of equipment and foreign aid.
- D. Reduce the budget surplus and increase repurchases of government bonds in the short-term money market.

40. Concerning the RBA's actual *monetary policy stance* between 2016 and mid 2019, which of the following is *most correct*?
- A. The policy stance was highly expansionary.
 - B. The policy became neutral.
 - C. A more contractionary policy stance was adopted and maintained.
 - D. The policy was able to become less expansionary because of a substantial rise in the size of the budget deficit between 2016–17 and 2018–19.
41. Monetary policy is often regarded as being *more effective* than budgetary policy in directly helping to achieve the goal of:
- A. full employment.
 - B. strong and sustainable economic growth.
 - C. low inflation (price stability).
 - D. international competitiveness.
42. The likely effect of a more *expansionary* monetary policy setting by the RBA would be:
- A. a rise in the household savings ratio.
 - B. a slower rise in I.
 - C. a higher C and net X.
 - D. none of the above.
43. If the RBA *increases* its cash rate, this is *likely* to cause:
- A. GDP to rise.
 - B. cyclical unemployment to fall.
 - C. an increase in demand inflation.
 - D. an increase in our borrowing overseas, pushing up the value of the Australian dollar.
44. Examine the hypothetical *checklist of indicators* in table 4.15 prepared for the RBA covering a two-year period.

TABLE 4.15 Hypothetical checklist of economic indicators used by the RBA

RBA checklist indicator	Year 1	Year 2
Retail sales change (percentage change)	12	2
Consumer confidence (index points)	122	91
New dwelling approvals ('000)	69 200	45 100
Job vacancies ('000)	170	140
Trade weighted index (TWI)	68	67
Terms of trade index	115	108
China's rate of GDP growth (percentage)	10	6

This hypothetical data for the period indicate that:

- A. economic conditions have probably started to improve overall and there is cause for optimism.
- B. labour market conditions have strengthened, with a likely fall in the unemployment rate.
- C. macroeconomic conditions have probably deteriorated due to weaknesses domestically and internationally.
- D. a tighter macroeconomic policy stance needs to be adopted.

45. Which statement about Australian *monetary* policy is *most correct*?
- A. The implementation lag is long, increasing the chance that policy may become pro-cyclical, but this is offset by the fact that the impact lag is short.
 - B. Monetary policy is a very precise or surgical instrument that can accurately target and correct specific problem areas in the economy.
 - C. Monetary policy can do little else to stimulate economic growth and full employment once interest rates are close to, or reach, zero per cent.
 - D. Following its deregulation, there are no controls or regulations governing Australia's financial system.
46. As a rough guide in recent years, a fairly *neutral* monetary policy stance for the RBA is generally when official interest rates are:
- A. less than 1 per cent.
 - B. around 1–2 per cent.
 - C. around 2.5 per cent.
 - D. around 3.5 per cent.
47. Which of the following aggregate demand budgetary policies is *most likely* to be in *conflict* with the RBA's pursuit of low inflation using higher interest rates?
- A. Raising welfare benefits and G spending (expressed as a ratio to GDP)
 - B. Increasing PAYG tax rates and failing to compensate income earners for bracket creep
 - C. Cutting the size of the budget deficit
 - D. Substantially increasing the budget surplus
48. Which of the following is generally *false* following a *cut* in interest rates?
- A. The Australian dollar will tend to depreciate.
 - B. AD may fall due to lower investment spending.
 - C. The inflation rate may tend to rise if there is little unused or spare capacity available.
 - D. The unemployment rate should tend to fall.
49. Following open market operations by the RBA, *increased* interest rates are *likely* to:
- A. increase domestic savings but reduce investment spending.
 - B. decrease the labour force underutilisation rate.
 - C. reduce the inflow of foreign investment and weaken the exchange rate.
 - D. cause all of the above.
50. If real GDP or economic growth was running below 2 per cent and annual inflation rate was 1.2 per cent, the RBA would *probably*:
- A. tighten its monetary policy stance.
 - B. loosen its monetary policy stance.
 - C. not change its monetary policy stance.
 - D. start by tightening its policy stance before easing it.

Resources



Digital documents Multiple choice answer grid (doc-31511)

Multiple choice answers (doc-31512)

4.16 Exercise 2: Extended response questions

1. Accurately define what is meant by *budgetary* (fiscal) policy. In what ways is this policy regarded as an *aggregate demand policy*? (2 marks)
2. With reference to budget speeches, what have been the main goals or *priorities* of recent federal budgets? (2 marks)

3. Over the last two years, including 2017–18 and 2018–19, Australia’s rate of economic growth was below trend, annually averaging around 2.2 per cent rise in real GDP, unemployment was high, averaging about 5.3 per cent of the labour force, and inflation was low averaging around just 1.8 per cent per year. Explain how the *operation of automatic stabilisers* in this economic situation, should *normally* work to help strengthen *domestic economic stability* and improve *living standards*. (4 marks)
4. Budgetary policy is an important category of aggregate demand measures used to help stabilise the economy and improve Australia’s living standards.

In delivering the 2019–20 budget, the then Treasurer noted that ... ‘the budget is back in the black and is on track. For the first time in 12 years, our nation is paying its own way ... The budget builds on our plan for a stronger economy. A stronger economy that benefits you, your family, your business, your community, your country. ... It restores our nation’s finances. Without increasing taxes...We want small business to prosper and we are backing them to do so’.

In the 2018–19 budget, the then treasurer noted that the ‘government is backing business to create more jobs’.

The same sort of emphasis on ‘jobs and growth’ was also part of the 2017–18 budget.

Source: Commonwealth of Australia © Reserve Bank of Australia.

- a. In part, by pursuing these aims the treasurer does not just rely on automatic stabilisers. *Discretionary budget measures* also played a central role. What are *discretionary* measures? Identify two specific *discretionary aggregate demand* measures announced in the 2018–19 and/or 2019–20 budgets and then explain how each measure might help to ‘grow the economy and create more jobs’. (3 marks)
- b. Explain how ‘a stronger economy brings benefits to you, your family, your business, your community and your country’. (4 marks)
5. Examine the budget estimates and projections in table 4.16 taken from the 2019–20 budget.

TABLE 4.16 Actual and estimated budget statistics from the Australian government

	Actual	Estimates				Projections		Total (a) \$b
	2017–18 \$b	2018–19 \$b	2019–20 \$b	2020–21 \$b	2021–22 \$b	2022–23 \$b		
Receipts	446.9	485.2	505.5	522.3	551.0	566.9	2145.7	
Per cent of GDP	24.2	25.0	25.2	25.1	25.4	25.0		
Payments (b)	452.7	482.7	493.3	511.3	533.2	557.7	2095.6	
Per cent of GDP	24.5	24.9	24.6	24.6	24.5	24.5		
Net Future Fund earnings (c)	4.3	6.6	5.1	na	na	na	5.1	
Underlying cash balance (d)	–10.1	–4.2	7.1	11.0	17.8	9.2	45.0	
Per cent of GDP	–0.5	–0.2	0.4	0.5	0.8	0.4		

Source: © Commonwealth of Australia 2019.

- a. Define the term *underlying budget balance* and then describe the actual and forecast trends in this balance from 2017–18 onwards. (2 marks)
- b. Referring to table 4.16 and giving reasons, explain whether the forecast change in the federal budget outcomes for 2018–19 and 2019–20 should be seen overall as an *expansionary* or *contractionary* fiscal policy *stance* and explain how this is likely to affect AD and future levels of macroeconomic economic activity. (5 marks)

- c. What are the main *causes* of the 12 actual and forecast federal *budget deficits* totaling over \$360 billion to 2018–19? (3 marks)
- d. The treasurer has forecast a return to a *budget surplus* of around \$7.1 billion in 2019–20. This projected outcome is based on many assumptions. Identify and outline the *three* most important *economic assumptions* that are likely to determine whether he will be successful in returning to a budget surplus. (3 marks)
6. There is concern over Australia's growing level of *official* (i.e. public sector) *debt*. In 2018–19, interest on this debt was around \$17 billion with about the same again in 2019–20.
 - a. What is the *medium-term operational goal* of recent budgets? Briefly outline how this goal may be achieved. (1 mark)
 - b. Identify and outline two important *reasons why a return to budget surplus* in the *medium-term* is important for Australia. (2 marks)
 - c. What are the main *methods* available for the treasurer to *finance* ongoing large *budget deficits*? (2 marks)
7. Select and outline two important *discretionary* budgetary policy announcements from the 2018–19 and or 2019–20 budgets (or from the last two years), and then explain how these are likely to affect Australian *living standards*. (3 marks)
8. In his 2019–20 budget speech, the treasurer announced measures that would provide '*additional cost of living relief*' for some households. Identify one important *policy announcement* that might help to do this and explain how it may work. (2 marks)
9. Identify and outline one important *advantage* and one important *disadvantage* of using fiscal policy as a *stabiliser of domestic economic activity* in the current economic climate. (3 marks)
10. Carefully define *monetary policy*, outlining its '*medium-term operational goals*'. Why is this regarded as an aggregate demand policy? (3 marks)
11. Read the edited extract taken from the *RBA Statement on Monetary Policy* by the RBA Governor in March 2019 and answer the questions that follow.

Statement by Glenn Stevens (Governor of the RBA)

At its meeting today, the Board decided to leave the cash rate unchanged at 1.50 per cent.

The global economy grew above trend in 2018, although it slowed in the second half of the year. ... The outlook for the global economy remains reasonable, although downside risks have increased. The trade tensions remain a source of uncertainty. ... In most advanced economies, unemployment rates are low and wages growth has picked up.

... The Australian dollar has remained within the narrow range of recent times. While the terms of trade have increased over the past couple of years, they are expected to decline over time.

The Australian labour market remains strong ... and the unemployment rate is at 5 per cent. ... The stronger labour market has led to some pick-up in wages growth, which is a welcome development. The improvement in the labour market ... is still expected to be a gradual process.

Other indicators suggest growth in the Australian economy slowed over the second half of 2018. ... The growth outlook is being supported by rising business investment, higher levels of spending on public infrastructure and increased employment. The main domestic uncertainty continues to be the strength of household consumption in the context of weak growth in household income and falling housing prices in some cities. ... Inflation remains low and stable. ...

The low level of interest rates is continuing to support the Australian economy. Further progress in reducing unemployment and having inflation return to target is expected, although this progress is likely to be gradual. Taking account of the available information, the Board judged that holding the stance of monetary policy unchanged at this meeting would be consistent with sustainable growth in the economy and achieving the inflation target over time.

Source: © Reserve Bank of Australia.

- a. What is meant by the RBA's *monetary policy stance*? What did the Board decide in its meeting in March 2019? (2 marks)
 - b. Thinking of the RBA's *checklist of indicators* and referring specifically to the RBA's media statement, what *justifications* were given by the RBA Governor for the *monetary policy stance* that had been maintained over the last two to three years to mid 2019? (3 marks)
 - c. In the *future*, explain the steps or *process* whereby the RBA could bring about an *increase* in its the cash rate target. (3 marks)
12. Referring to at least three important *monetary policy transmission mechanisms*, explain how an RBA decision to *lower its cash rate* target further to just 1.0 per cent '... *would be consistent with sustainable growth ... and achieving the inflation target over time*'. (4 marks)
 13. Identify and explain one important *strength* and one important *weakness* of using monetary policy to help promote *domestic economic stability*. (2 marks)
 14. In April 2019, the Treasurer announced a *less expansionary/mildly contractionary* budget involving a reduced budget deficit from around \$4.2 billion (−0.2% GDP) in 2018–19 to a surplus of \$7.1 billion (0.4% GDP) in 2019–20. Given this budget stance, explain the roles currently being played by our mixture of monetary policy and budgetary policy in helping to promote *domestic economic stability* and *living standards*. (6 marks)

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4.16 Practice school-assessed coursework

A total of two SACs are to be completed for VCE Economics Unit 4. SAC 1 is worth 50 per cent of the total assessment for Unit 4. It assesses the skills and knowledge associated with Outcome 1 that is largely covered in topic 4. The SAC should be part of the regular teaching and learning program, and completed mainly in class and within a limited timeframe. The SAC could involve one or more of the following:

- a folio of applied economics exercises
- an essay
- a report
- structured questions
- problem-solving exercises
- a folio of media commentaries.

Courses and assessments can change, so teachers are urged to carefully check the latest VCAA *assessment guide* and various *bulletins* to ensure that all the assessment requirements are met fully.

A FOLIO OF APPLIED ECONOMICS EXERCISES

1. Accurately define what is meant by *budgetary* (i.e. fiscal) policy. Using specific examples of recent measures, explain how this policy can be used as an *aggregate demand policy*. (3 marks)

2. Examine table 4.17 that has been extracted from the 2019–20 federal government's 2019–20 Budget Papers. It sums up what the then Treasurer, Scott Morrison, described as ... '*the government living within its means*'. Referring to data in table 4.17 and giving clear reasons for your answer, accurately describe the expected *change* in the federal government's *budget stance* over the years between 2017–18 and 2021–22. (3 marks)

TABLE 4.17 Actual, estimated and projected changes in the Australia's budget outcomes

	Actual	Estimates	Projections				Total (a) \$b
	2017–18 \$b	2018–19 \$b	2019–20 \$b	2020–21 \$b	2021–22 \$b	2022–23 \$b	
Receipts	446.9	485.2	505.5	522.3	551.0	566.9	2145.7
Per cent of GDP	24.2	25.0	25.2	25.1	25.4	25.0	
Payments (b)	452.7	482.7	493.3	511.3	533.2	557.7	2095.6
Per cent of GDP	24.5	24.9	24.6	24.6	24.5	24.5	
Net Future Fund earnings (c)	4.3	6.6	5.1	na	na	na	5.1
Underlying cash balance (d)	–10.1	–4.2	7.1	11.0	17.8	9.2	45.0
Per cent of GDP	–0.5	–0.2	0.4	0.5	0.8	0.4	

Notes: (a) Total is equal to the sum of amounts from 2019–20 to 2022–23. (b) Equivalent to cash payments for operating activities, purchases of non-financial assets and net acquisition of assets under finance leases. (c) Under the Future Fund Act 2006, net Future Fund earnings will be available to meet the Australian Government's superannuation liability in 2020–21. From this time, the underlying cash balance includes expected net Future Fund earnings. (d) Excludes expected net Future Fund earnings before 2020–21.

Source: © Commonwealth of Australia 2019.

3. Most politicians and commentators agree that the federal government needs to return to a *budget surplus* in the medium term. Identify and clearly explain *two* important *reasons* why Australia must repair the budget and seek to return to a *surplus* over the medium term. (4 marks)
4. Examine table 4.18 sourced from the April 2019–20 budget papers showing the 'actual' outcome for economic growth in 2017–18, and the 'forecast' rates for GDP growth between 2018–19, 2019–20 and 2020–21. Assuming that the forecast changes in GDP growth between 2018–19 and 2019–20 prove to be correct, carefully explain how the operation of *automatic (cyclical) stabilisers* would normally affect the *budget outcome*. How would these forecasts be likely to affect the achievement of Australia's key *domestic macroeconomic goals*? (6 marks)

TABLE 4.18 Actual and forecast changes in Australia's rate of economic growth (at April 2019)

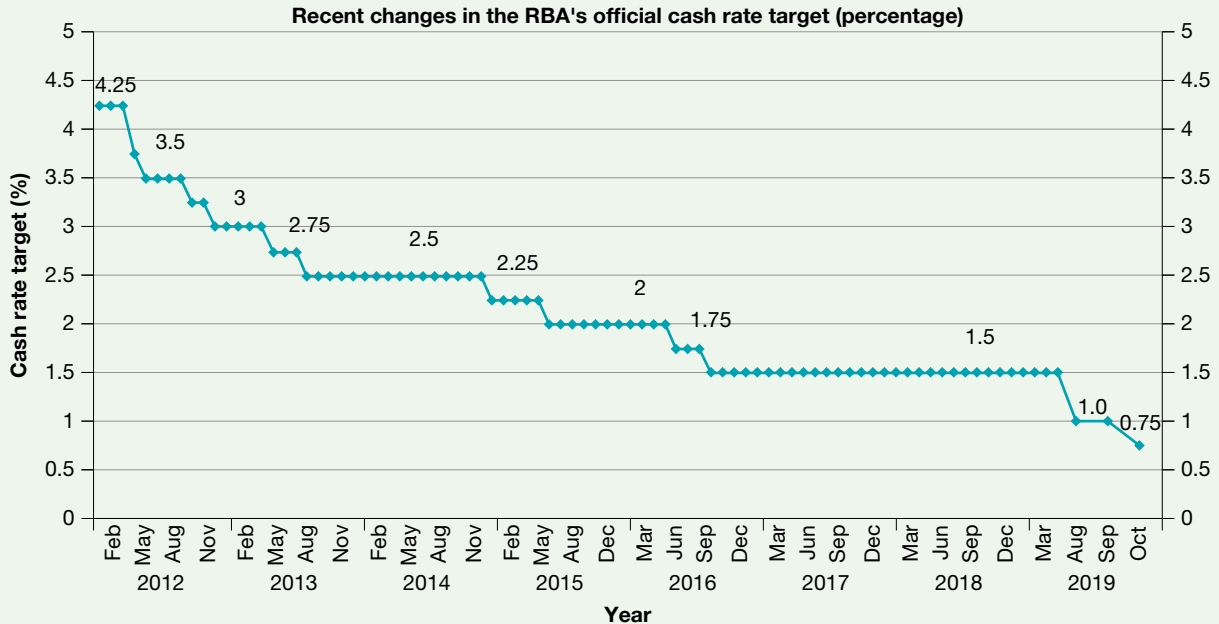
Year	Outcome 2017–18	Forecast 2018–19	Forecast 2019–20	Forecast 2020–21
Annual percentage change in real GDP	2.8	2.25	2.75	2.75

Source: © Commonwealth of Australia 2019.

5. Select an important *discretionary stabiliser* announced from the 2018–19 and/or 2019–20 budget that you believe will especially help to boost the rate of *economic growth*, create jobs and improve overall *living standards* in the medium term. Briefly outline this specific aggregate demand measure, and then explain how this might help to boost economic growth and improve living standards. (6 marks)
6. Identify and carefully explain one important *strength* and one important *weakness* of using *budgetary policy* to help *stimulate* AD and Australia's economic activity. (4 marks)

7. Accurately define *monetary policy*. Explain why this policy is regarded as an important macroeconomic or *aggregate demand* policy. (3 marks)
8. Examine figure 4.22 showing the RBA's cash rate target in recent years, focusing on the recent changes in this target between June 2016 and July 2019. Referring to the data from figure 4.22, explain the change in the RBA's monetary policy *stance* during the period between June 2016 and July 2019. In addition, referring to the RBA's *checklist* of indicators, identify and outline the most likely *reasons* used to *justify* its recent monetary policy *stance*. (3 marks)

FIGURE 4.22 Changes in Australia's cash rate target



Source: © Reserve Bank of Australia.

9. Read the quote from the RBA's 1959 Charter below:

'The RBA's duty is to contribute to ... [economic] stability ... the maintenance of full employment in Australia ... economic prosperity and the welfare of the Australian people.'

Source: © Reserve Bank of Australia.

As noted here, the RBA applies monetary policy to help promote economic prosperity. Hypothetically, assume that there was a rise in Australia's inflation rate during 2021–22.

Carefully explain the main steps (i.e. the *process*) whereby the RBA could *tighten* its monetary policy *stance* (referring to the completed diagram representing the short-term money market 'before' and 'after' the rise in the RBA's cash rate target). (4 marks)

10. Referring to two important *transmission mechanisms*, clearly explain how a *lower cash rate* over the last two years to late 2019, is likely to have affected the level of AD and the government's key *domestic macroeconomic goals*. (6 marks)
11. Discuss the *effectiveness* of the RBA lowering interest rates over recent years, by referring in detail to one important *strength* and one important *weakness* of using monetary policy designed to help promote domestic economic stability. (4 marks)

AN ESSAY

Select *one* of the following questions and write an essay in response.

1. Unit 4, SAC 1 could require you to complete an essay about the nature and operation of a government macroeconomic policy. Structure a research essay about budgetary policy as an aggregate demand instrument as follows:

- (a) Provide a clear definition of budgetary policy. (4 marks)
 - (b) Define domestic economic stability. (4 marks)
 - (c) Discuss how recent budgetary policy can help achieve this government goal, illustrating this with reference to recent fiscal measures. (12 marks)
2. Quoting statistics and examples of actual policy changes, explain how a mixture of budgetary and monetary policies has been used to help pursue strong and sustainable economic growth and full employment in Australia during the last two years. (20 marks)
 3. A return to federal government budget surplus is important in the medium term. How has this desire to return to budget surplus affected the conduct and operation of monetary policy in the pursuit of domestic stability? Discuss the advantages of using monetary policy in this situation. (20 marks)

A WRITTEN REPORT

Unit 4, SAC 1 could require you to complete a report about macroeconomic policy (budgetary policy and monetary policy). You may like to complete *one* of the following reports involving the operation of budgetary policy. Make sure you complete topic 4 before attempting the report.

1. Report about using budgetary policy as an aggregate demand instrument to promote domestic economic stability. (20 marks)
 - (a) Clearly define what is meant by domestic economic stability for Australia.
 - (b) How might the achievement of domestic economic stability affect Australia's living standards?
 - (c) To what extent has Australia enjoyed domestic economic stability in the past two years?
 - (d) Define *budgetary policy* and explain how it can operate as an aggregate demand policy.
 - (e) Quoting examples, explain how automatic and discretionary budget stabilisers in a slowdown would normally assist recovery and the promotion of living standards. Illustrate with actual examples of specific budgetary measures used in the past two years.
2. Report about the operation of monetary policy as an aggregate demand instrument to promote domestic economic stability. (20 marks)
 - (a) Define *monetary policy*, explaining how this operates as an aggregate demand policy.
 - (b) Identify and outline the main *domestic problems* faced by the Australian economy during the past two years.
 - (c) Explain how the RBA, when faced with these problems, has used monetary policy in the past two years to promote domestic economic stability and improvements in living standards.
 - (d) Identify *two* important strengths and *two* weaknesses of using monetary policy to promote domestic economic stability during the past two years.
3. Report about the impacts of the recent federal budget. Use media reports about the federal budget in newspapers and on the internet (such as the federal government's website containing the recent budget papers) to research information about the *latest* budget and write a brief report (containing diagrams, statistics, examples of policy and graphs). Address the following in your report: (20 marks)
 - (a) Analyse the main domestic economic problems faced by the Australian economy at this time.
 - (b) The budget is based on domestic and international assumptions and Treasury forecasts. Identify and outline these assumptions, along with the Treasury's forecasts for key economic variables for the next few years.
 - (c) Explain whether the budget stance is expansionary or contractionary.
 - (d) Identify and explain the key features and measures in this budget that you feel will help to promote domestic economic stability and improve living standards at this time.

FOLIO OF MEDIA COMMENTARIES

Your task is to collect a folio of media commentaries about a range of recent macroeconomic or aggregate demand policies that have been adopted by the Australian government. These articles might include:

- budgetary policies including the most recent budget
- the RBA's monetary policy involving recent changes in interest rates.

Articles could be sourced online or in hard copy from print media. You should source and annotate these articles, and submit them as a folio.

5 Aggregate supply policies and domestic economic stability

5.1 Overview

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

5.1.1 Introduction

FIGURE 5.1 Aggregate supply policies consist of a wide range of government cost-cutting, efficiency promoting strategies designed to grow Australia's productive capacity or the potential size of GDP. For example, these measures might include creating financial incentives for individuals and businesses such as offering lower taxes or increased pay to extract greater effort and efficiency, the building of better national infrastructure, the use of immigration to grow our labour resources, and improving education and training. By growing the economy's productive potential, key domestic macroeconomic goals like strong economic growth, full employment and low inflation should be better achieved, allowing us to enjoy higher material living standards.



In Topic 4 we looked at the ways *budgetary* and *monetary policies* can be used to manage the level of aggregate demand, pursue the government's domestic macroeconomic goals and, ultimately, help to improve Australian living standards. While the use of macroeconomic policies to manage aggregate demand is important in the short to medium term for dealing with cyclical economic problems (such as booms and recessions, demand inflation and cyclical unemployment), this ignores the vital roles played by *aggregate supply policies* in reducing longer term aggregate supply-side troubles such as cost inflation, structural unemployment and inefficiency that limits the potential rate of economic growth, our international competitiveness and, ultimately, our living standards.

In other words, aggregate supply policies can also be used to help promote the government's key domestic macroeconomic goals. Indeed, as we shall see in this topic, without these aggregate supply measures to help boost efficiency and productive capacity, the growth in aggregate demand cannot be satisfied or met in the long term, limiting Australia's economic performance and undermining our living standards.

5.1.2 What you will learn

KEY KNOWLEDGE

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

- the nature, operation and aims of aggregate supply policies and their relationship to the domestic macroeconomic goals, international competitiveness and living standards
- the relationship between the efficient allocation of resources and aggregate supply
- how the following aspects of budgetary policy are designed to influence aggregate supply and the achievement of domestic macroeconomic goals:
 - spending on training and education
 - research and development grants
 - subsidies
 - investment in infrastructure
- how welfare and tax reform policies are designed to influence aggregate supply and living standards
- the effect of immigration policies on the labour market and aggregate supply, and the way in which this influences the achievement of domestic macroeconomic goals
- the strengths and weaknesses of using aggregate supply policies to achieve the Australian Government's domestic macroeconomic goals and how these goals may affect living standards.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- describe the aims of aggregate supply policies in terms of the domestic macroeconomic goals and living standards
- gather relevant data and information about the nature and operation of aggregate supply policies in Australia
- analyse the effect of aggregate supply policies on the domestic macroeconomic goals and living standards
- discuss the strengths and weaknesses of aggregate supply policies.

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.

Resources

 **Digital document** Key terms glossary (doc-31517)

study

To access key concept summaries and past VCAA exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31518).

5.2 Definition and aims of aggregate supply policies

KEY CONCEPTS

- the nature, operation and aims of aggregate supply policies and their relationship to the domestic macroeconomic goals, international competitiveness and living standards
- the relationship between the efficient allocation of resources and aggregate supply

Before looking at how aggregate supply policies work, it is important that we start with a definition.

5.2.1 Definition of aggregate supply policies

Recall that **aggregate supply (AS)** is the total output of a nation's producers at a given level of prices, and is affected by their *ability* and *willingness to supply* goods and services. **Aggregate supply policies** include a wide range of government cost-cutting, efficiency-promoting, incentive building strategies that seek to grow the productive capacity or potential of the economy, especially in the long term, by increasing the willingness and ability of suppliers of goods and services (individuals and businesses) to produce.

These policies try to increase the nation's potential level of output by making **aggregate supply conditions** more favourable.

More specifically, government aggregate supply policies might involve measures that seek to:

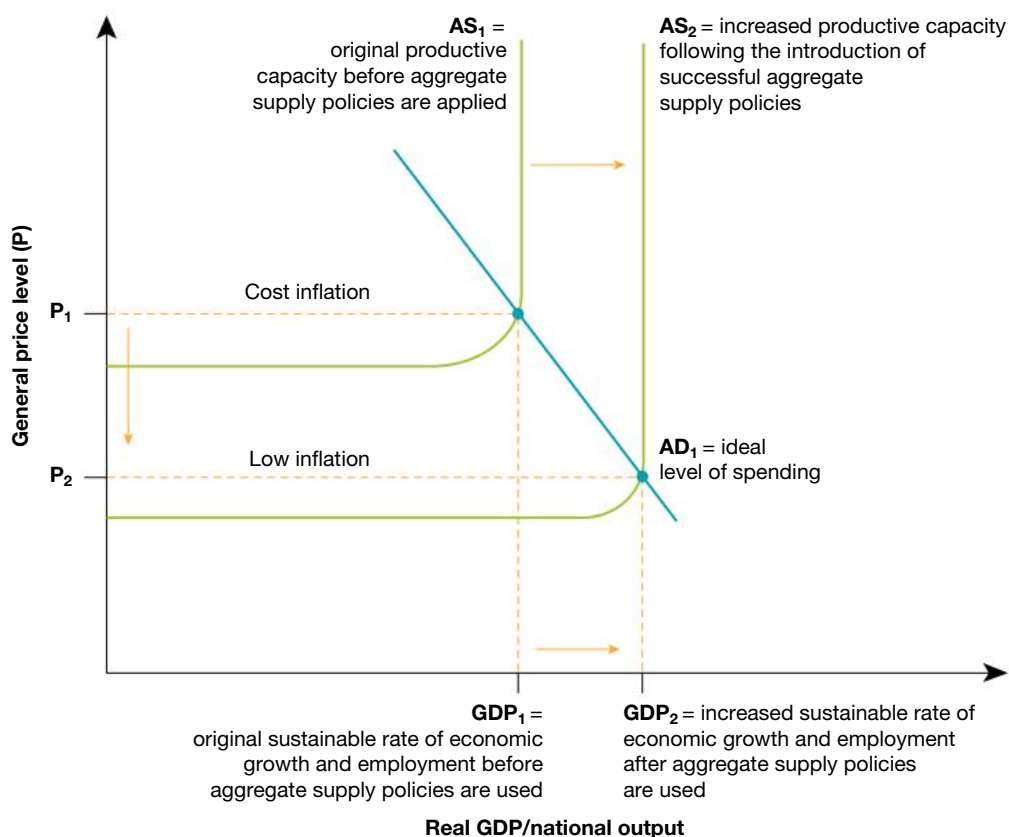
- increase the *efficiency* in our use of resources so that the output of goods and services grows faster than the rise in inputs
- increase the *quantity* or volume of productive resources available
- increase *incentives* to motivate individuals and businesses to expand production and capacity
- increase the level of *competition* in markets so they are more responsive and efficient
- *reduce* any instances of *market failure* in allocating resources.

These macroeconomic impacts of successful aggregate supply policies can be easily illustrated in figure 5.2 using an *aggregate demand–supply diagram*. Here, the increase in Australia's productive capacity shifts the whole aggregate supply line out and to the right of the original line (the move from AS_1 to AS_2 ; or on the *production possibility diagram*, this could be shown through an outward shift of the production possibility frontier). Returning to the AD–AS diagram, notice that supply-side measures that grow capacity through increased resources or efficiency will boost the sustainable level of national production (the shift from GDP_1 to GDP_2) that can be achieved while enjoying lower prices or cost inflation (the shift from P_1 to P_2). Clearly this offers enormous potential for governments to help strengthen our domestic macroeconomic goals, competitiveness and living standards. We will return to these effects shortly.

While these aggregate supply policies can be seen as *complementary* to the aggregate demand measures that we studied in topic 4 (both are used to promote the government's domestic macroeconomic goals and living standards), they *differ* in at least *three* important areas:

- *They work in different ways and use different theories.* On the one hand, aggregate demand policies influence Australia's domestic macroeconomic conditions by countercyclically stabilising the growth in the level of *spending* (AD). This is based on Keynesian economic theory where 'demand creates supply'. On the other hand, aggregate supply policies try to grow our economy's productive *capacity* to produce or supply a higher level of national output (AS), perhaps by using incentives and competition to boost efficiency. Here 'supply may create demand'. A combination of these approaches allows Australia's rising demand for goods and services to be matched or *balanced* by a growing capacity to supply.
- *They work on slightly different problems.* By helping to stabilise spending, aggregate demand policies can help to avoid *cyclical problems* caused by booms and recessions, such as demand inflation and cyclical unemployment, that undermine our living standards. However, aggregate supply policies deal

FIGURE 5.2 How effective aggregate supply policies can slow cost inflation, lift the sustainable rate of GDP and employment growth, and improve Australia's competitiveness and material living standards.



with *structural problems* — such as cost inflation, natural unemployment and the sustainable speed limit or non-inflationary rate of economic growth — as a way of enhancing our wellbeing.

- *They operate in different time frames.* Aggregate demand policies often focus more on the short- to medium-term drivers of the economy, whereas aggregate supply policies tend to concentrate more on longer-term factors determining the economy's performance.

In the current VCE Economic course, we are required to focus on *three* main areas of the Australian government's *aggregate supply policies*:

1. *Aggregate supply aspects of government budgetary policy.* You are required to study a selection of four **supply-side budgetary policies** that can directly affect Australia's **productive capacity**. These focus largely on aspects of government budget outlays. You need to be able to discuss how these policy initiatives impact on domestic macroeconomic goals and living standards. The policies involved are:
 - investment in infrastructure
 - spending on education and training
 - research and development grants
 - subsidies.
2. *Welfare reforms and tax reforms as aggregate supply policies.* You need to be able to explain how such **welfare and tax reforms** might affect productive capacity and aggregate supply, and discuss how these reforms might affect domestic macroeconomic goals and living standards.

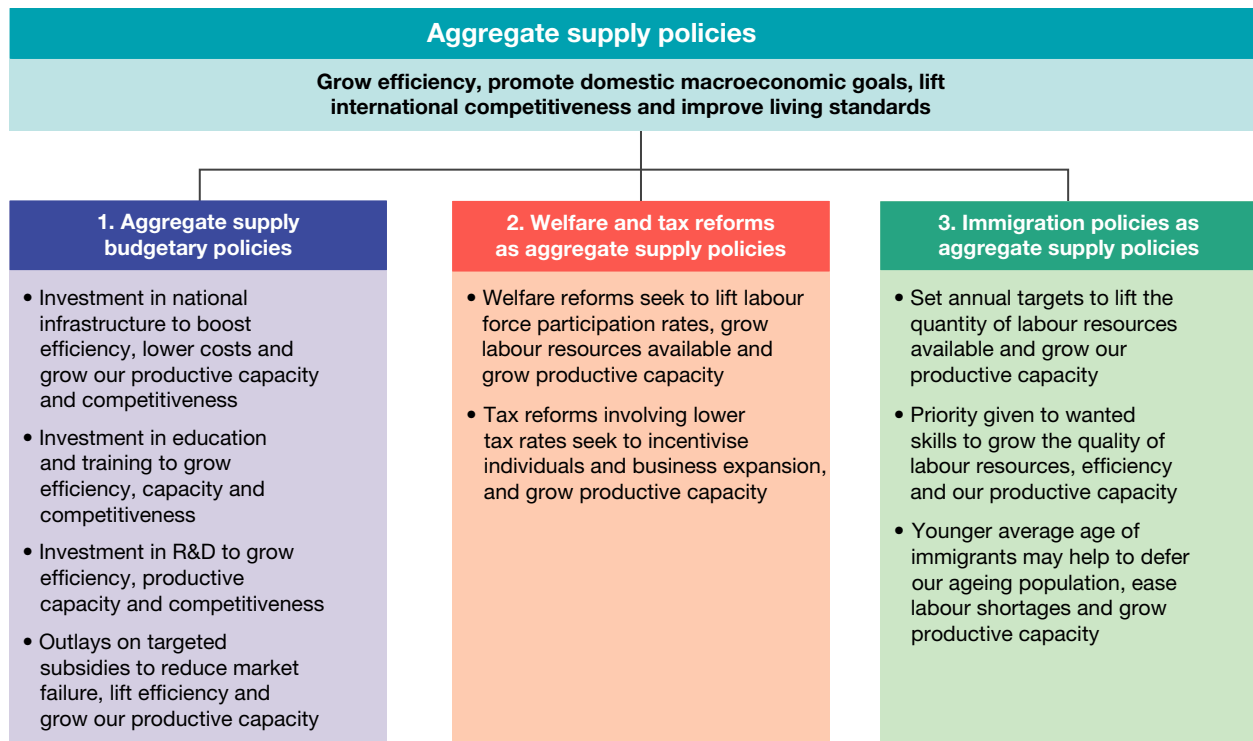
3. *Immigration policies affecting the labour market.* Immigration policies involve the government setting targets for the number and required skills of immigrants. They are designed to affect the quality, size and age distribution of our labour force. You are required to explain how these policies affect Australia's productive capacity and aggregate supply, and be able to discuss the impact of these policies on domestic macroeconomic goals and living standards.

Note that for each of these policies, you need to remember *three* main things:

1. **Ensure that you can describe the *nature* of these government aggregate supply-side policies.**
2. **Be able to explain how policies *operate* to affect efficiency, productive capacity and AS.**
3. **Be able to *discuss* their impacts (including strengths and weaknesses) on Australia's key domestic macroeconomic goals, international competitiveness and living standards.**

Figure 5.3 provides an overview of the aggregate supply policies on which we will focus in this topic.

FIGURE 5.3 An overview of aggregate supply policies



5.2.2 Aggregate supply policies aim to improve efficiency in resource allocation

A central aim of all aggregate supply policies is to grow Australia's productive capacity, potential level of GDP and aggregate supply through increasing **efficiency** (the change in the ratio of output gained from a unit of inputs) in how our resources are used or allocated. For example, more national output can be gained from the same inputs by promoting stronger competition in markets, increasing financial incentives for

motivation, increasing education and skills and improving infrastructure. Specifically, aggregate supply policies seek to strengthen *four* different types of efficiency:

- **Allocative efficiency** needs to increase to ensure that resources are directed into areas where they best help to satisfy society's immediate and future needs and wants. For example, allocative efficiency may be improved by using aggregate supply policies to promote stronger competition between sellers of goods and services in various markets, by undertaking market deregulation and through labour market reforms. This ensures that resources are directed into areas of comparative cost advantage, where opportunity costs are minimised. However, on some occasions, government policy intervention may be needed to overcome market failure and lift efficiency in the allocation of resources.
- **Productive** or **technical efficiency** is about businesses using the least-cost method of production. Aggregate supply policies (such as research and development grants) can help firms to cut their costs and employ the best international production practices, skills, technology and equipment available.
- **Dynamic efficiency** involves firms being adaptive and creative in response to changing economic circumstances. Policy needs to encourage market flexibility and resilience when faced with changing tastes among buyers. Dynamic efficiency is also enhanced when employees upgrade their skills and training, when there is a culture of market research and product development, and when firms are encouraged to be innovative and creative.
- **Intertemporal efficiency** involves ensuring there is a suitable balance between resources being allocated towards current consumption on the one hand, and adequate national saving for financing future investment to grow the economy's capacity on the other. Aggregate supply-side policies (such as tax reform and investing in infrastructure) can help promote this.

In turn, stronger efficiency or productivity holds the key to improvements in Australia's living standards, particularly given our ageing population.

5.2.3 Aggregate supply policies aim to promote the achievement of Australia's domestic macroeconomic goals

The Australian government uses cost-cutting, efficiency-promoting aggregate supply policies to help strengthen the achievement of Australia's *three* important *domestic macroeconomic goals*.

1. The aim of boosting the sustainable, non-inflationary rate of economic growth

In the long term, Australia's rate of economic growth is limited to the speed at which our productive capacity (the absolute maximum level of production that a country can obtain from the available resources at a point in time) can expand. An important aim of aggregate supply policies (such as immigration, investment in infrastructure, spending on education and R&D, along with welfare and tax reforms) is to increase the economy's speed limit by reducing the constraints limiting efficiency that currently slow Australia's sustainable growth in production. Appropriate policies, for example, might potentially let us grow GDP by an average rate of 4 or 5 per cent a year in the future without accelerating inflation, rather than at about 3 per cent as at present. Clearly, faster GDP growth should lead to higher average real incomes and material living standards.

2. The aim of promoting low inflation by cutting production costs

Inflation rises quickly when there are demand and/or cost pressures pushing up prices. Many aggregate supply policies (such as infrastructure investment, outlays on education and R&D, tax reforms and immigration) aim to improve productivity or efficiency, thereby slowing the production costs for firms. With lower costs, businesses can sell their goods and services more cheaply and still make strong profits. In turn, this slows *cost inflation* and therefore helps achieve the government's goal. This would also tend to strengthen our purchasing power, international competitiveness and living standards.

3. The aim of promoting full employment, especially in the long run

Unemployment can be caused by a lack of spending and by ‘natural’ causes including structural changes in the way goods and services are produced and sold. In the *long term*, aggregate supply policies (such as spending on education, training and infrastructure, along with welfare and tax reforms including lower rates of company tax), can help reduce the rate of natural unemployment (NAIRU). They might do this by focusing on improved flexibility and efficiency in our use of labour resources, creating incentives that reward efficiency, and ensuring workers have appropriate skills and training so they are more employable. Aggregate supply policies can help cut production costs and make Australian firms and workers more internationally competitive and profitable. When profits are stronger, fewer firms close down and more start up or expand. This should eventually help to reduce structural unemployment and create more jobs. Real incomes and living standards ought to benefit from this. However, it is possible in the *short term* that some aggregate supply policies may also cause a rise in the level of structural unemployment in some industries.

5.2.4 Aggregate supply policies aim to increase Australia’s international competitiveness

A final aim of aggregate supply policies is to make local businesses more competitive internationally at home and abroad, by helping them to be able to sell more attractive goods and services at lower prices that better meet customers’ needs, than their overseas rivals. They seek to do this by conducting research and product development, increasing efficiency, and keeping production costs and inflation rates lower. This might involve measures to increase competition in some key markets, and to create greater incentives for business investment, participation and hard work. As a consequence, Australian firms should be able to grow their sales at home and abroad, boosting incomes. This boosts Australia’s living standards.

5.2.5 Aggregate supply policies aim to improve Australian living standards

By helping to directly or indirectly promote *greater efficiency* and our three domestic macroeconomic goals, as well as international competitiveness, aggregate supply policies have the potential to lift material and non-material living standards. There are many advantages to greater efficiency, including:

- most importantly, greater efficiency in resource use means we can produce a bigger output with the same inputs, so we have the capacity to grow GDP and therefore national income per head at a faster rate than otherwise
- greater efficiency and lower costs and prices help to boost the purchasing power of higher incomes
- lower costs and prices due to improved efficiency help to make us more internationally competitive, adding to business expansion rather than closures, generating higher export incomes and living standards
- in the long term, greater efficiency and competitiveness especially help to lower structural unemployment and grow average incomes.

5.2.6 Some aggregate supply policy challenges facing Australia’s economy

Today, the Australian economy faces significant aggregate supply *problems*. These need to be addressed through appropriate government policies in order to strengthen the economy’s performance. Some of these challenges are summarised in figure 5.4.

FIGURE 5.4 Some challenges now facing Australia for aggregate supply policy



on Resources

-  **Weblinks** Policies for managing aggregate supply
Supply-side policies
Supply-side economics
Productivity

5.2 ACTIVITIES

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Check your understanding

1. Define aggregate supply policies.
2. What are the main aims of aggregate supply policies?

Applied economic exercises

1. (a) Contrast aggregate supply policies and aggregate demand policies. **(4 marks)**
(b) What do you consider to be the three most important aims or goals of aggregate supply policies? Explain your selection. **(3 marks)**
(c) Distinguish between the following types of efficiency:
i. allocative efficiency and technical (productive) efficiency. **(2 marks)**
ii. intertemporal efficiency and dynamic efficiency. **(2 marks)**
(d) Use a fully labelled and annotated AD–AS diagram to show how successful aggregate supply policies might be expected to affect each of the following: **(4 marks)**
i. AS line and efficiency in resource allocation
ii. the sustainable rate of economic growth
iii. the inflation rate
iv. material living standards.
(e) In general terms, outline how aggregate supply policies may be used to help achieve any *two* of the following government goals:
i. low inflation (also called price stability)
ii. strong and sustainable economic growth
iii. lower unemployment
iv. improvements in living standards. **(4 marks)**

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5.3 How selected government budgetary policies can influence aggregate supply, domestic macroeconomic goals and living standards

KEY CONCEPTS

- how the following aspects of budgetary policy are designed to influence aggregate supply and the achievement of domestic macroeconomic goals:
 - spending on training and education
 - research and development grants
 - subsidies
 - investment in infrastructure

Aggregate supply-side budgetary policies can be used to help grow Australia's productive capacity or potential, thereby helping to promote domestic macroeconomic goals and better living standards.

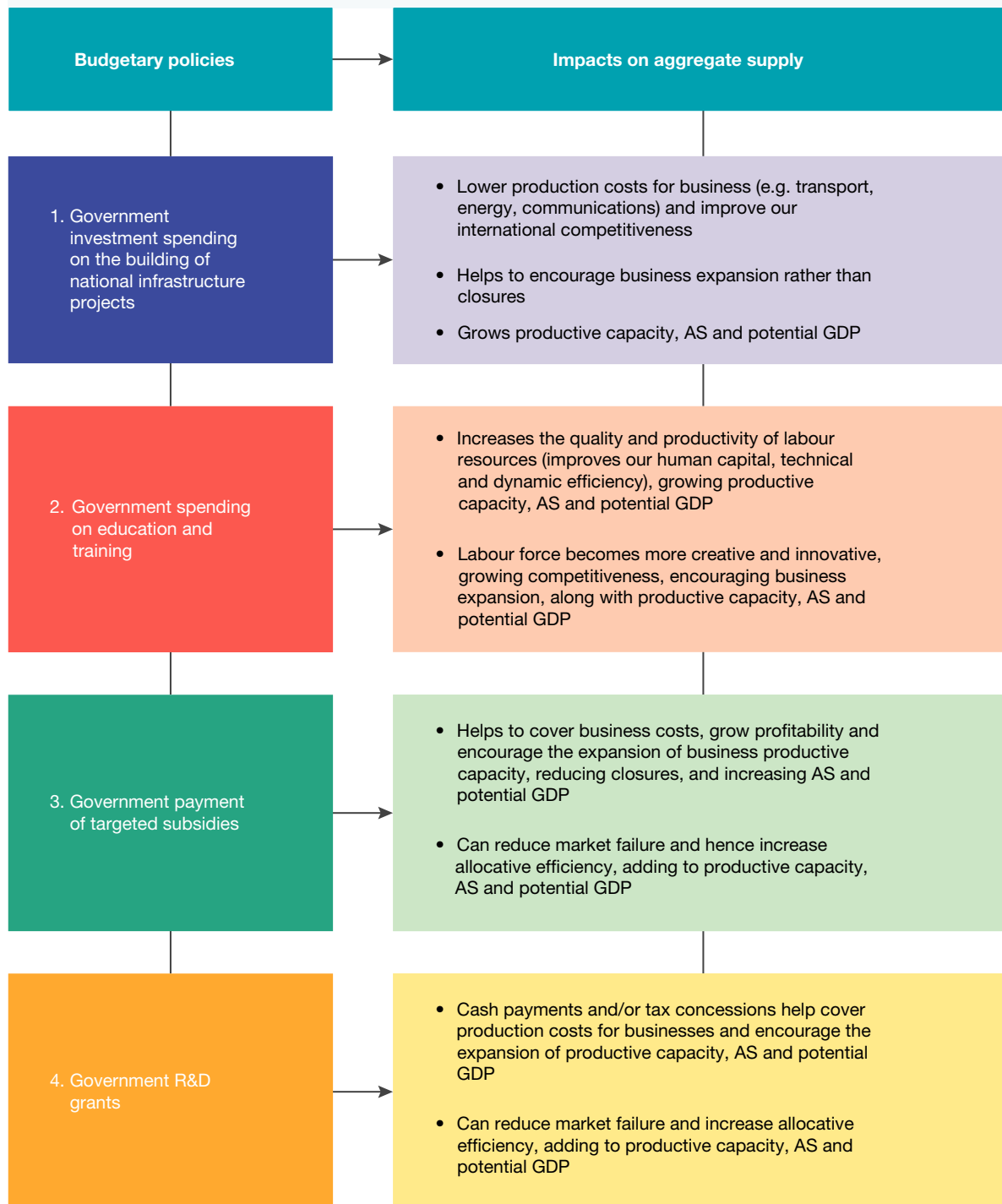
Aggregate supply budgetary policies seek to use changes in budget receipts and/or outlays to help allocate

more resources more efficiently into key areas, correcting market failure and building the economy's long-term productive capacity. We will examine four specific aggregate supply budgetary policies:

1. Government investment in building national infrastructure
2. Government spending on training and education
3. The selective use of government subsidies and industry assistance
4. Provision of government research and development (R&D) grants.

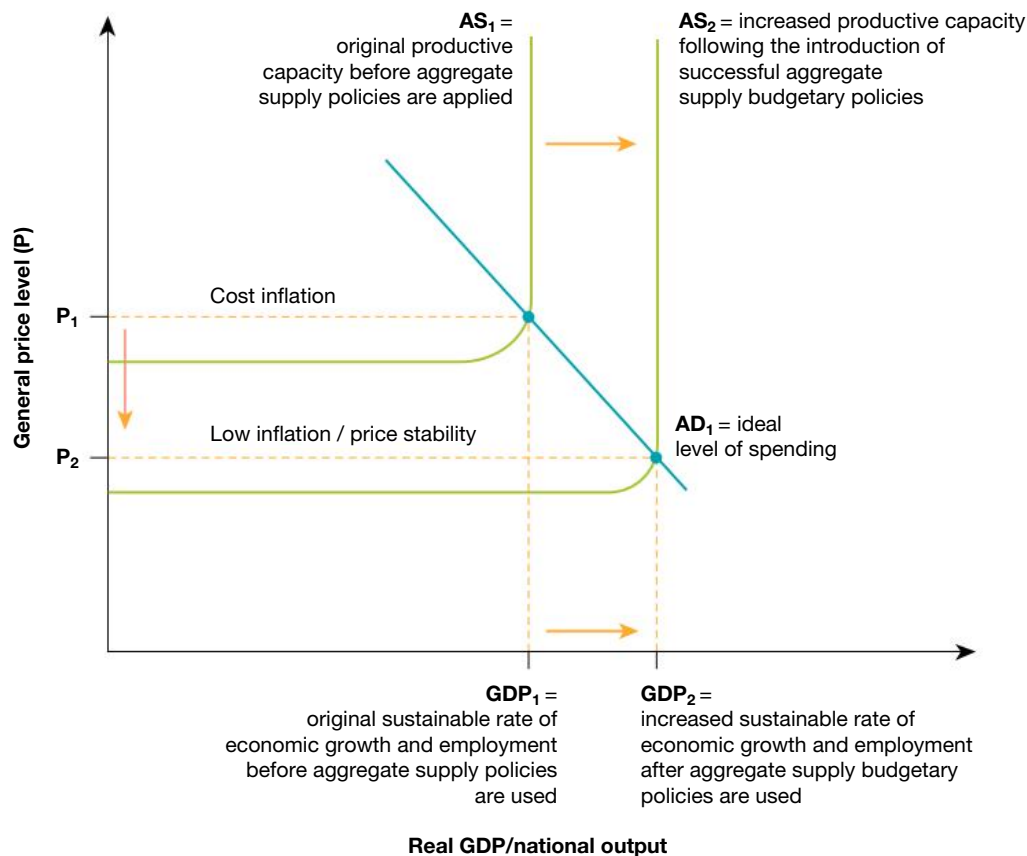
These aspects of aggregate supply budgetary policy are summarised in figure 5.5.

FIGURE 5.5 An overview of some aggregate supply aspects of budgetary policy



Using the AD–AS diagram in figure 5.6, we will show that each of these policies can be used to increase Australia’s productive capacity, grow aggregate supply (the shift from AS_1 to AS_2), and increase the sustainable rate of economic growth (the shift from GDP_1 to GDP_2) while slowing inflation (the shift from P_1 to P_2), thereby increasing incomes and strengthening living standards.

FIGURE 5.6 How aspects of budgetary policy can be used to grow Australia’s productive capacity



With this in mind, let’s take a look at the first of these *four* aggregate supply budgetary policy measures.

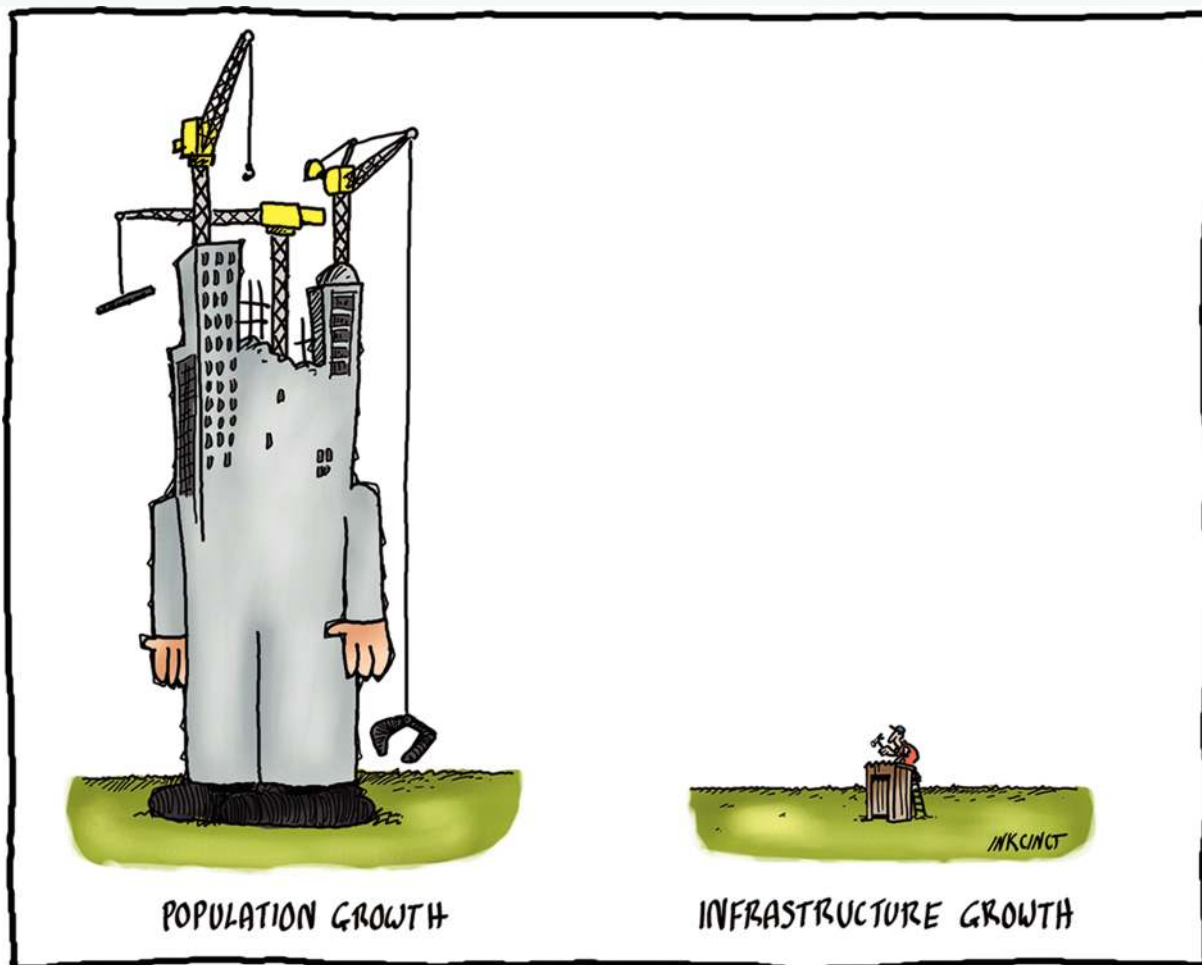
5.3.1 How government investment spending on national infrastructure in the budget can grow aggregate supply

Infrastructure investment can be regarded as an aspect of aggregate supply budgetary policy that involves federal government outlays on the capital resources (G_2) that are in turn used by suppliers to produce other goods and services.

There are *two* types of infrastructure:

- *Social infrastructure* especially involves the provision of capital goods to facilitate services like education and health.
- *Economic infrastructure*, by contrast, might include highways, railways, sea ports, airports, electricity capacity and delivery, gas, telecommunications including the broadband network, sewerage and water supply.

FIGURE 5.7 It is widely recognised that building national infrastructure projects involving investment in transport, water, communication and electricity can enhance efficiency and the productive capacity of the economy. This should help to reduce production costs for firms and encourage them to expand, rather than close down. In turn, infrastructure can grow our potential GDP and incomes, and allow Australian producers to be more internationally competitive. Unfortunately, the building of infrastructure has not kept pace with our rapid growth in population.



Both types of infrastructure can help grow a nation's productive capacity or potential, and therefore affect the level of aggregate supply. However, in this section we will focus mostly on *economic* infrastructure.

There are also other features of infrastructure investment that need to be kept in mind:

- There are usually long lead times in their identification, planning and construction.
- For some infrastructure projects, low profits in the short term can cause them to become relatively unattractive for private sector investors.
- In most markets, the price system efficiently allocates resources between uses. Supply-side shortages are indicated or signalled by rising prices and increased profitability. This attracts extra resources into these areas of production. However, despite recent government reforms, infrastructure markets for urban and rural water, power, road, rail transport, and gas are still not very responsive in this way.
- Infrastructure often involves external benefits (positive externalities) where the economic and social returns are far beyond those directly received by individual investors. This leads to its underproduction, market failure and capacity restrictions. Correcting this problem requires government intervention through investment in infrastructure. Examples of positive externalities associated with spending on better road infrastructure are reduced accidents and fatalities, along with lower levels of pollution and less depletion of non-renewable resources.

The federal government's recent policy on investment in infrastructure

Infrastructure is used by Australian businesses and suppliers of goods and services. If the government provides adequate and efficient infrastructure, this can greatly improve aggregate supply conditions, encouraging business expansion and the growth of GDP. However, if infrastructure provision is inadequate and there are shortages or bottlenecks, production costs are higher, our international competitiveness is reduced and productive capacity (and potential GDP) and AS are limited.

Traditionally, Australia's national infrastructure projects have been largely financed through government (public) investment or capital outlays in the budget (G_2). Nowadays, state and federal government investment provides around 50 per cent of all spending on infrastructure, as shown in figure 5.9. At the federal level, these ventures are sometimes paid directly from tax receipts, but they can be funded by borrowing, perhaps through the sale of government bonds or by using dividends generated from special purpose savings funds that are mostly managed by the Future Fund. *Infrastructure Australia*, a statutory body, is also set up to advise the government about infrastructure, including impediments to efficiency. It is also required to develop a 'priority list' for important national infrastructure projects.

In recent times, too, profit-seeking *private* investors, sometimes working through *public-private partnerships* (PPPs), have also helped to finance infrastructure construction and its operation. Because such projects often involve natural monopolies, they are usually subject to government supervision. Today, figure 5.9 graph (a) shows that private-sector spending contributes around 50 per cent of all infrastructure investment. This trend has been accelerated by the privatisation of some government assets, and by recent large budget deficits and debt that impose financial limits on public sector investment spending.

While, overall, significant rises have occurred in economic infrastructure spending across all key areas, the last few years have seen a drop in transport, water and energy construction. Figure 5.9 graph (b) shows recent changes in Australia's combined value of government and private sector construction spending on key infrastructure, by industry sector.

The graph shown in figure 5.9 (b) highlights that while construction spending has increased overall across the four sectors, significant slowdowns occurred in transport, water and energy between 2011–12 and 2015–16, before some recovery in 2016–17 and 2017–18. Today, we are faced with infrastructure bottlenecks (reflecting rapid population growth partly due to high levels of immigration). These shortages raise production costs for Australian firms and reduce our international competitiveness. In turn, this contributes to business closures and slows expansion, limits the growth of productive capacity and lowers average living standards. Partly in response, recent budgets for 2016–17, 2017–18, 2018–19 and 2019–20, have attempted to catch up and ease the many bottlenecks by increasing government investment spending on national infrastructure projects, including roads, railways, shipping and airports, telecommunications, water, gas and electricity. Some of the policy highlights include:

- *Some general statistics:*
 - The 2018–19 budget announced that there would be \$75 billion invested in national transport infrastructure projects over the next 10 years with funds directed into reducing urban congestion.

FIGURE 5.8 The Railway Station Domain was redeveloped as part of the 'Nation Building-Economic Stimulus Plan' implemented by the Australian government.

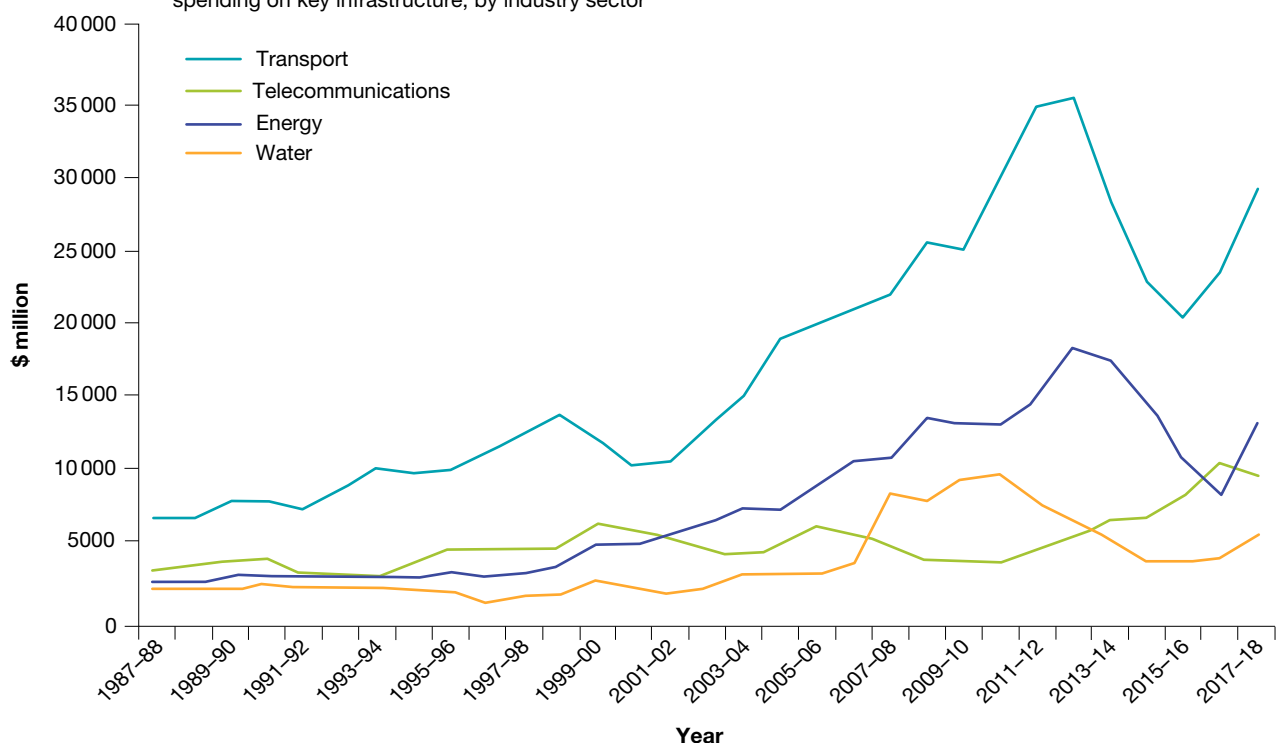


FIGURE 5.9 Annual changes in the value of Australian infrastructure construction spending by the government and private sectors, and by industry sector

(a) Infrastructure construction activity by the government or public sector and the private sector



(b) Recent changes in Australia's combined value of government and private sector construction spending on key infrastructure, by industry sector



Source: Bureau of Infrastructure, Transport and Regional Economics BITRE, 2018, Yearbook 2018: Australian Infrastructure Statistics, Statistical Report, BITRE, Canberra ACT.

- As part of a rolling Ten-Year Infrastructure Plan across Australia, the 2019–20 budget committed an additional \$25 billion, taking the total government spend to \$100 billion. This included an extra \$3 billion for the Urban Congestion Fund to help cut urban travel times and to provide for improved parking at railway stations, \$2 billion for the Geelong–Melbourne fast train project to halve the journey and \$100 million for regional airports. In addition, there is the West Sydney, North–South rail Link, extension of the M1 Pacific Motorway and \$2.6 billion for Queensland’s key roads and other projects.
- *Transport projects:* Australia’s transport infrastructure annually moves around 950 billion tonnes of freight, along with several hundred million passenger trips. Much of the 2019–20 budget’s \$100 billion Ten-Year Infrastructure Plan is committed to improving transport infrastructure. It is focused on reducing congestion and improving the efficiency of Australia’s road, rail and air transport infrastructure projects. In doing so, it hopes to lower transport costs for suppliers of goods and services (e.g. costs associated with fuel usage, long travel and labour times due to congestion, vehicle and equipment maintenance, and other costs including the loss of life due to accidents). In turn, lower costs help raise Australia’s economic efficiency, international competitiveness, productive capacity, incomes and hence living standards. Specific focuses include:
 - *Air transport:* Use equity investment of over \$5 billion to create a government-owned business (Western Sydney Airport Company) to build a new airport for Sydney (2017–18 budget). In addition, the Hobart Airport will be upgraded (2017–18 budget), along with regional airports (2019–20 budget).
 - *Rail transport:* The 2017–18 budget announced \$8.4 billion of equity arrangements to fund the Melbourne–Brisbane inland rail project. There was also increased funding available for urban and regional rail links including the duplication of the Geelong–Warrnambool line, the Murray Basin Rail Freight hub, \$30 million towards a Melbourne Airport Rail Link business case study, the upgrade of the Tasmanian rail network, and the Brisbane–Gold Coast light rail project. The 2018–19 budget announced \$5 billion of funding for the Melbourne Airport rail link, and additional spending for the North East link and Monash Rail, while the 2019–20 budget set aside \$2 billion for a fast rail link from Geelong to Melbourne, along with the West Sydney, North–South rail link.
 - *Road transport:* The 2017–18 budget announced spending on key road links including \$1 billion for the Monash Freeway, the widening and extension of the M80 Ring Road, costing \$500 million, upgrade of the Western Highway, Tullamarine Freeway, Princess Highway, Pacific Highway, Bruce Highway, Midland Highway in Tasmania, and the Regional Roads Productivity Program to help avoid road closures in the Northern Territory due to flooding and improve roads considered vital to expanding the cattle industry. The 2018–19 budget earmarked \$3.5 billion for Roads of Strategic Importance (including around \$1.5 billion for the Northern Australia Package) and another \$1 billion for the Urban Congestion Fund. In the 2019–20 budget, funding was provided for roads including the Goulburn Valley, Western and Princess Highways.
 - *Other:* The 2017–18 budget set up a \$5 billion Northern Australia Infrastructure Facility with low interest loans as part of a plan to develop Australia’s north. This involves making low-cost infrastructure loans available for PPPs between the private sector and the governments of WA, NT



and Queensland for the purpose of constructing pipelines, ports, electricity and water infrastructure. This is in addition to investing \$600 million on key northern roads, and another \$100 million for roads considered important to the northern Australian cattle industry.

- *Telecommunication projects:* The National Broadband Network (NBN) project is Australia's largest and most ambitious single infrastructure project, involving the building of a high-speed fibre optic and cable internet and telecommunications system for use by businesses and households. Infrastructure construction commenced in 2010 and should be completed by 2020–21. After blowouts, the total cost of the project may be up to \$56 billion, most paid by the taxpayer through various budget outlays. By 2020, the rollout of the NBN should be complete connecting 12 million premises, resulting in direct and indirect social and economic benefits for businesses and households. For example, the NBN should help cut production costs, improve connectivity to world markets, and make firms more creative, productive, innovative and, hence, internationally competitive. This should lead to an increase in Australia's productive capacity, aggregate supply, potential GDP and incomes.
- *Utilities, including electricity projects:* Spiraling energy costs for businesses and households have been a particular media focus during the last few years to 2020. Australia's electricity and gas prices are among the highest in the world (e.g. double the US average). They are a severe cost obstacle for the survival of local manufacturing and export firms that are seeking to expand, be internationally competitive, avoid closure and grow their productive capacity, AS, average incomes and living standards. One problem has been indecision by successive governments over energy policy associated with renewable energy targets, the roles of base-load coal power and the closure of some coal-fired power stations. In part, this has led to inadequate investment spending in energy by the private sector, bottlenecks and a shortfall in electricity supply and, hence, rising power prices. Clearly, increased investment is needed in power infrastructure using a variety of supply-side budgetary measures to grow capacity. The following is outlined in federal budgets:
 - *Pumped hydro Snowy Mountains 2.0 project:* One supply-side budgetary infrastructure policy measure designed to improve peak supply reliability and help slow rises in electricity prices is the idea of pumped hydro-electricity using the rejuvenated Snowy Mountains Scheme 2.0. (The original infrastructure was built after World War II and is currently jointly owned by the NSW, Victorian and the federal governments.) Following the 2018–19 budget, the federal government is contributing \$1.4 billion to the scheme with the remaining \$3.1 billion plus, coming from the current operators (Snowy Hydro Limited). Work on this redevelopment infrastructure project started in early March 2019 (expected completion date November 2024) and may grow the capacity of the old scheme by up to 50 per cent, making it one of the largest of its type in the world.

The project involves spending on pipelines and tunnels to allow the water used to generate hydro-electricity during peak-hour consumption to be reused by pumping it back up into the reservoir during off-peak times. This helps solve the problem of having a new base-load energy source to replace the loss of supply due to the closing of several coal-fired power stations, thereby keeping power prices lower in Victoria and NSW. Another 18 000 suitable sites across all states have recently been identified for pumped hydro.

- *Solar-thermal project:* Up to \$110 million of equity finance has been provided for the building of a solar thermal plant at Port Augusta, SA (2017–18 budget).
- *Gas supply projects:* \$78 million is set aside for onshore gas exploration to boost gas supply, along with \$7 million for a study into new gas pipelines to SA from the NT and WA. In addition, in the 2017–18 budget, the treasurer announced that export restrictions could be applied to gas companies that restrict domestic gas supplies, which have been contributing to supply shortages and driving up gas prices.

How does government investment in infrastructure influence aggregate supply, domestic macroeconomic goals and living standards?

As mentioned, significant government investment spending on national infrastructure through the budget represents an aggregate supply policy (as well as having effects on the level of aggregate demand via higher levels of G_2 spending) that grows the economy's long-term productive capacity and aggregate supply (refer again to figure 5.3 in section 5.2.1). But exactly how might these policies work to increase aggregate supply and affect the government's key macroeconomic goals and living standards? Let us examine *four* important effects.

Infrastructure investment helps boost aggregate supply and the sustainable rate of economic growth

Infrastructure investment helps to accelerate the long-term sustainable rate of economic growth by boosting the economy's productive potential and the level of aggregate supply. This can happen in several ways:

- Investment in economic infrastructure provides some of the additional resources or inputs needed by suppliers to allow them to increase their production of other goods and services. It helps to grow the availability of capital resources and reduces infrastructure bottlenecks or obstacles that would otherwise hold back production or aggregate supply.
- Infrastructure helps to grow Australia's productive capacity (increase the size of the production possibility frontier), thereby increasing aggregate supply and our sustainable rate of economic growth.
- Building new infrastructure lifts both the quantity of Australia's capital resources available, along with their efficiency. New projects normally contain superior technology, increasing technical (productive) efficiency and capacity, and therefore our potential GDP. They also improve inter-temporal efficiency and even allocative efficiency by reducing market failure associated with positive externalities that lead to the underproduction of these goods.
- Better infrastructure helps reduce production costs for suppliers associated with transport, utilities and telecommunications. It represents more favourable aggregate supply conditions that encourage business competitiveness and the expansion of productive capacity and GDP.
- Given Australia's very rapid rate of population growth, there are still massive bottlenecks or shortages. Infrastructure investment simply hasn't kept up as seen by problems in power, transport, water and telecommunications. Building new infrastructure should help address the backlogs, growing our productive capacity and GDP.

Infrastructure investment helps boost aggregate supply and slow inflation

There are several ways whereby, in the long term, government investment in infrastructure helps to lift efficiency, boost productive capacity, grow aggregate supply and slow cost inflation pressures:

- As mentioned already, infrastructure investment helps to increase intertemporal, technical and allocative efficiency. Improved efficiency translates into lower production costs. As a more favourable aggregate supply condition, this allows sellers to have lower prices, slowing cost inflation pressures and improving our international competitiveness.
- More specifically, better infrastructure helps to lower the costs of fuel, vehicle maintenance and labour costs (time) that follow improvements in road and other types of transport infrastructure. Potentially, there are also cost savings for electricity, gas and water used that can be gained from upgraded utilities, along with cost reductions from better connectivity, and faster, more efficient systems of communication.

Infrastructure investment helps boost aggregate supply and lower unemployment

In the long term, infrastructure investment can help keep structural unemployment lower.

- As previously explained, infrastructure investment helps to lift efficiency and check rises in production costs. This strengthens business profitability and encourages new and existing firms to expand their operations, rather than close down. This boosts aggregate supply and reduces structural unemployment.

- By helping to keep production costs lower, it helps to make local suppliers more internationally competitive and profitable, both here and overseas, encouraging the expansion of business and employment opportunities.

Infrastructure investment helps to support higher living standards

By growing aggregate supply, government infrastructure investment can ultimately help to support some aspects of material and non-material living standards:

- By helping to accelerate the sustainable rate of GDP growth, slowing inflationary pressures and assisting employment, investment in infrastructure can grow average real incomes and purchasing power, creating optimal conditions for better material living standards. In the long term, lower unemployment can especially improve non-material living standards through improved happiness, social connectedness, feelings of self-worth, lower crime rates and better health outcomes.
- Investment in infrastructure can help to reduce market failure and the underproduction of public goods caused by the existence of positive externalities (wider social and economic benefits that are usually ignored by profit-seeking private owners of resources). In so doing, it can strengthen allocative efficiency and more fully maximise the extent to which society's wants and wellbeing are actually met.

Weaknesses of government investment spending on infrastructure

From what we have seen so far it is clear that, in theory at least, government investment spending in infrastructure can produce substantial aggregate supply-side benefits. In practice, although billions of dollars of resources have been allocated to this area, critics highlight weaknesses and claim that 'we get little bang for our buck'.

- Despite high levels of investment in infrastructure, Australia's multifactor productivity has been slowing. Normally we would expect the reverse. Blame is sometimes attributed to bureaucratic failure, unnecessary delays in approval, and poor analysis of the real costs and benefits of projects. Indeed, cost-benefit analysis by Infrastructure Australia (used to help establish project priorities) show that for some projects, the returns barely outweigh the added costs! So while the net benefits for the new western Sydney airport are estimated to be a return of \$1.90 for each dollar of cost, returns for the Inland Rail project is just \$1.10 for every dollar spent — a very marginal benefit. However, there is a counterargument that the productivity decline would have been even greater without substantial infrastructure resources being allocated by the government.
- There has been a partial failure to produce a consistent flow of high-quality infrastructure projects, adding to delays. In part, this has meant that infrastructure has not kept pace with population growth (substantially driven by rapid immigration). It has created supply bottlenecks in transport, energy, telecommunications, water, rail and ports, slowing the growth in capacity and reducing the effectiveness of infrastructure policy.
- There are financial constraints because of the need to rein in the size of budget deficits and slow the rising level of public-sector debt. Some, however, argue that there should be even more investment in projects with high returns that benefit society and the economy. These could be financed through the sale of government bonds, especially given that interest rates are now at an historic low.
- Given the high level of government debt, there is a need to work out improved funding schemes, including incentives to attract more private sector investment into infrastructure, perhaps through PPPs.

5.3.2 How government budget outlays on training and education can grow aggregate supply

Government spending on training and education represents current spending on materials and wages, outlays on fees and other support for families and students, as well as capital or investment spending on buildings, equipment, facilities and infrastructure for pre-school, primary and secondary schools, VET training, universities, TAFE education and libraries. It can be used in the long term to help cultivate better

skills, productivity and creativity of Australia's labour resources. It grows Australia's stock of human capital, thereby boosting our productive capacity, potential GDP and aggregate supply.

Given that education and training bring wider social and economic benefits (positive externalities to both society and the economy) that are often ignored, government support helps to correct market failure and increase Australian living standards.

The federal government's recent policy on training and education

Each year's federal budget involves government spending on education and training (on top of education spending by state governments). As an aggregate supply budgetary policy, this is designed to help support primary and secondary state and private schools, the VET system and universities, and so help grow the skills of Australia's labour resources and improve our human capital. This funding seeks to boost Australia's technical and dynamic efficiency, lower business costs, and expand our productive capacity, potential GDP, average incomes and living standards.



Graph 1 in figure 5.10 provides a general overview of the recent trends in federal government budget outlays on training and education, along with the breakdown between the various areas of spending. Notice from the graph that spending increased overall.

In addition, table 5.1 in figure 5.10 shows that the two largest recipients of federal government financial support in 2018–19 were the higher educational institutions like universities, government and, especially, non-government schools (the latter do not get state government funding).

FIGURE 5.10 An overview of the federal government's outlays on education and training

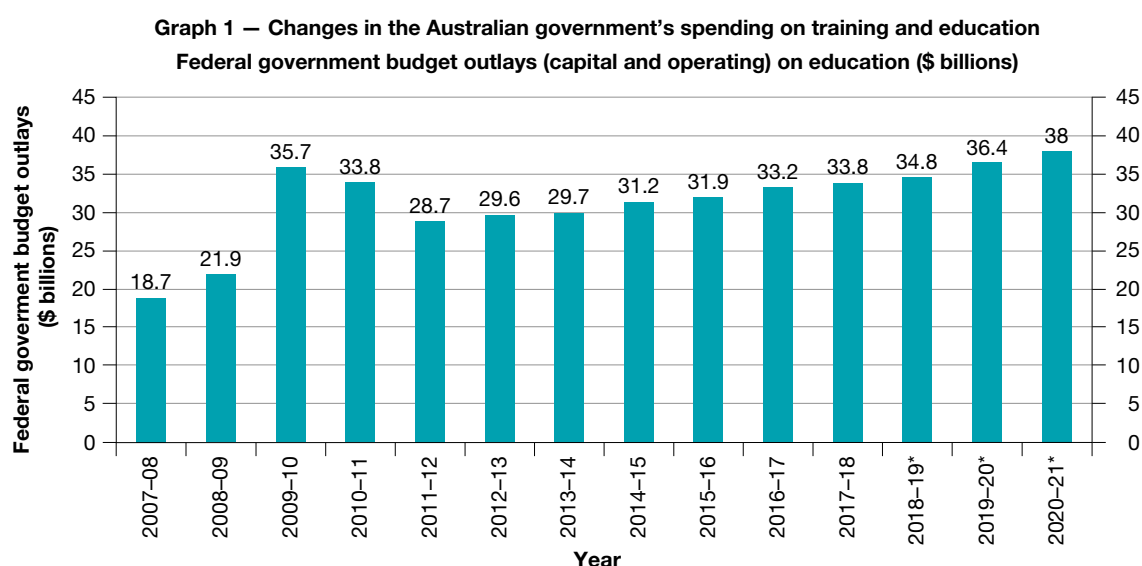


TABLE 5.1 Australian government spending on education by subfunction

	Actual	Estimates			Projection
	2017–18	2018–19	2019–20	2020–21	2021–22
Subfunction	\$m	\$m	\$m	\$m	\$m
Higher education	9676	9704	9856	10 118	10 256
Vocational and other education	1795	1675	1699	1697	1723
Schools	18 299	19 641	20 880	22 513	23 917
<i>Non-government schools</i>	11181	11956	12554	13518	14245
<i>Government schools</i>	7118	7684	8326	8995	9673
School education—specific funding	673	691	742	561	209
Student assistance	2923	2675	2752	2767	2849
General administration	380	388	420	391	385
Total education	33746	34773	36350	38047	39339

Note: * Estimates only

Source: © Commonwealth of Australia.

The following is an outline of some of the federal government's specific educational initiatives that have been announced, through the 2017–18, 2018–19 and 2019–20 budgets:

- *Increased fairness in federal school funding.* The 2017–18 budget announced that between 2018–19 and 2028–29, schools would receive an increase in financial support and recurrent funding of \$18.6 billion under a scheme called 'Quality Schools: True needs-based funding for Australian schools'. This funding model is the same for all school systems (similar in some ways to the previously proposed Gonski Model under Labor). The aim is to make funding fairer and simpler, improving educational outcomes and lifting future labour productivity and productive capacity.
- *Pre-school funding.* The 2017–18 budget provided ongoing funding of \$430 million to the end of 2018 for pre-school education, under the National Partnership Agreement on Universal Access to Early Childhood Education. This is designed to give pre-school children a better start educationally. In the 2019–20 budget, \$453 million was allocated to allow 350 000 young students to receive 15 hours per week of early learning.
- *The Skilling Australians Fund.* This fund was established, at a cost of \$1.5 billion, to increase the number and quality of people with higher skills in wanted areas, including regional locations. The 2018–19 budget provided a funding boost. In addition, as part of a \$525 million Skills Package, the 2019–20 budget promised that up to 80 000 new apprentices would receive a \$2000 bonus to help fill skills shortages.
- *Scholarships.* The Rural and Regional Enterprise Scholarships program will provide over 1000 places for various students to study maths and science, at a cost of over \$23 million. The 2019–20 budget provided funding for 1000 students per year to study in regional areas.
- *Higher Education Reform Package.* The 2017–18 budget announced a range of measures to help make tertiary education more financially sustainable, and to encourage universities to be more accountable and efficient in their use of government funding over upcoming years. Unfortunately, these changes may also lead to higher student fees.

How does government spending on training and education influence aggregate supply, domestic macroeconomic goals and living standards?

As noted already, significant Australian government spending on education and training through the budget represents an aggregate supply policy (as well as having effects on the level of aggregate demand). Again, thinking of the AD–AS diagram shown in figure 5.6 earlier in this section, exactly how do these policies work to increase Australia's productive capacity and aggregate supply (grow capacity from AS_1 to AS_2), and how might they impact on the government's macroeconomic goals and living standards?

Education spending helps to boost aggregate supply and accelerate the potential rate of economic growth

There are several ways that spending on training and education helps to boost productive capacity and aggregate supply, and accelerate the sustainable rate of economic growth:

- In the long term, it improves the quality of our labour resources, growing our human capital resources, making workers more productive, adaptive and innovative, and lifting the dynamic and technical efficiency of businesses.
- It helps to ease Australia's skills shortages or bottlenecks that would otherwise limit national production.
- By increasing efficiency and easing labour shortages, it slows the growth in wage costs and makes aggregate supply conditions more favourable, encouraging international competitiveness and the growth of businesses.
- Having skills tends to make individuals more employable, lowering structural unemployment and ensuring that more resources are put to productive use, growing capacity and AS.

Education spending helps to boost aggregate supply and slow cost inflation

Spending on education and training can slow production costs for businesses. In the long term, this promotes aggregate supply and *eases cost inflation* pressures in *two* main ways:

- As mentioned, improving our human capital helps to make labour more efficient (it increases GDP per hour worked), slowing business costs and allowing firms to sell their goods profitably at lower prices.
- It helps to ease the skills bottlenecks that would normally be reflected in higher wage costs and prices.

Education spending helps to boost aggregate supply and lower unemployment

In the long term, budget outlays on education and training help to reduce structural unemployment:

- Having the right skills can help to make our labour force *more employable*, reducing the *structural* unemployment that is often caused by the mismatch of skills and job requirements.
- By easing skills shortages, education outlays *slow* the growth in *wage costs* that otherwise would occur. This encourages business expansion, *fewer closures* and improved competitiveness, leading to less structural unemployment, and better material and non-material (through improved happiness, health, and feelings of self-worth) living standards.

Education spending helps to improve living standards

Spending on education and training in the budget can help strengthen some aspects of *material* and *non-material* living standards in several ways:

- Through accelerating the sustainable rate of GDP growth, slowing inflationary pressures and assisting employment, these outlays help to grow average *real incomes* and *purchasing power*. This creates optimal conditions for better *material* living standards.
- Education spending can help to *reduce market failure* and the underproduction of public goods due to the existence of positive externalities (these are usually ignored by profit-seeking private owners of resources). In so doing, it can *improve allocative efficiency* and more fully maximise the extent to which society's *material* wants are satisfied.
- Outlays on education make workers *more employable* and less likely to be unemployed and on inadequate welfare, because they have wanted skills that can grow the economy's productive capacity. By helping to reduce unemployment rates, education spending improves *non-material* living standards.

Weaknesses of government budgetary spending on training and education

So far, we have investigated how government spending on training and education has helped to grow Australia's efficiency, productive capacity and aggregate supply, improving domestic macroeconomic outcomes and living standards. However, in practice, this supply-side aspect of budgetary policy has involved some *weaknesses*:

- Although government funding has increased, it is still below the rate of high-income countries like Switzerland. It also needs to be more predictable and on a longer-term basis to improve educational outcomes.
- Despite the spending of billions of dollars on education and training, some of this has been directed towards the purchase of dubious resources (e.g. school canteens and gyms), often based on political considerations rather than social or economic outcomes.
- Even with the increase in government spending, educational outcomes are not up to standard:
 - Around 30 per cent of 15-year olds do not reach national literacy standards.
 - In Mathematics, Australian student performance has declined by the equivalent of about half a year.
- Some critics argue that the use of recent education funding models mean that too many resources are directed towards non-government or private schools, unfairly widening the gulf in facilities and opportunities offered to students.
- Attempts by the federal government to centralise education has led to waste, duplication of state programs and inefficiency in the use of resources.
- With budget financial constraints, funding of education and training programs has been reviewed and some programs reduced or abolished. This may have led to diminished outcomes.

5.3.3 How government budget outlays on targeted subsidies can grow aggregate supply

The selective use of *government subsidies* represents another aggregate supply-side aspect of budgetary policy involving outlays that can improve resource allocation, grow productive capacity and increase Australia's aggregate supply.

Subsidies are generally cash payments and/or tax concessions given by the government to businesses, industries or individuals. When given to producers (rather than consumers), they can help to reduce production costs, encourage firms to restructure their operations more efficiently to become internationally competitive, expand their productive capacity and grow aggregate supply in the long term. They can also help to promote society's general interests by reducing market failure, perhaps associated with externalities and the provision of public goods.

More specifically, there are different *types* of producer subsidies designed to make aggregate supply conditions more favourable. For example:

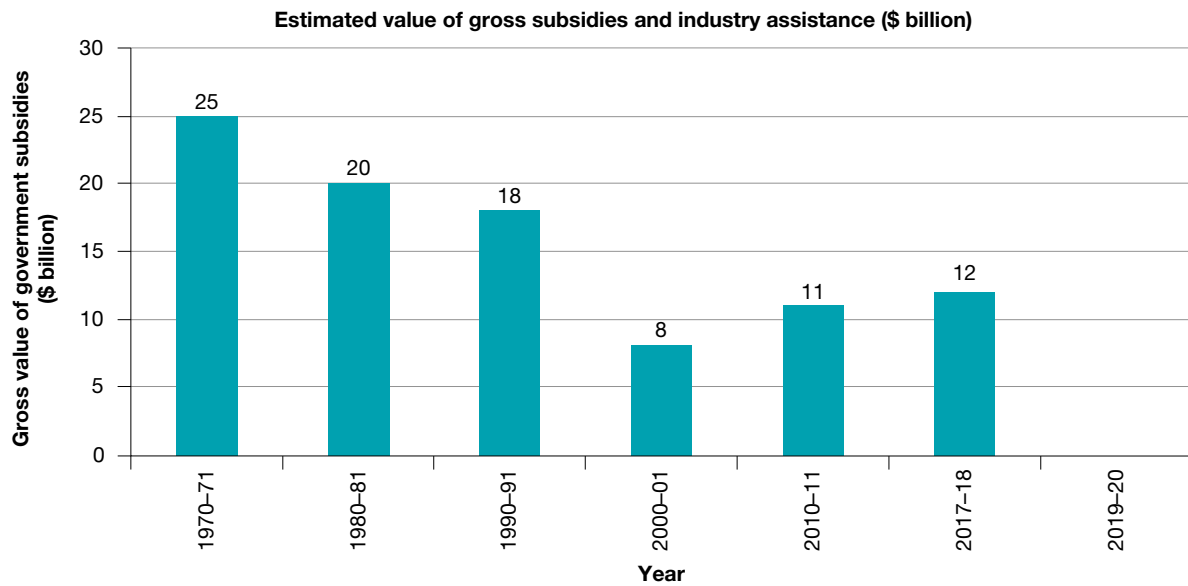
- Subsidies could help to cover the cost of an input (such as subsidies for employing older workers or the long-term unemployed).
- Subsidies could help to offset the losses made by businesses to avoid their closure.
- Subsidies could be given in the form of a loan or a grant targeted at businesses in a particular industry or geographic area.
- Some subsidies involve guaranteeing a certain minimum price or return for producing and selling a particular good or service.
- Subsidies could involve a R&D tax incentive, deduction or offset to help lower these production costs.

Whatever form it might take, a government subsidy is normally only justified when there is a *net gain in society's wellbeing* as a result of improved efficiency or greater equity.

The federal government's recent policy on industry subsidies

Despite a general reduction in government industry assistance, subsidies are still important in some industries and sectors of the Australian economy. As shown in figure 5.11, they represent a significant budget outlay of around \$12 billion per year.

FIGURE 5.11 Trends in the Australian government's budget outlays on subsidies



Sources: Data rounded and estimated using information derived from many sources including AGPS; Industry Commission; 2002 Trade Policy Review for Australia; Productivity Commission, Trade and Assistance Review 2017-18 see <https://www.pc.gov.au/research/ongoing/trade-assistance/2017-18>; DFAT; Budget Review 2006-07; and various budget papers 2008-09 to 2017-18.

- As mentioned, in some cases subsidies seek to overcome market failure caused by the existence of positive externalities that lead to the underproduction of public goods that make a positive contribution to society's overall living standards. We might think of the subsidy applied to shipping services for freight to Tasmania as an example.
- Some research activities with potentially wider social benefits are also subsidised because the uncertainty of financial returns in the short run. Without subsidies, this work would be unattractive to owners of resources and therefore be underproduced.
- Without subsidies, some infant industries (having weaker cash flows and low market shares, but with considerable future potential to grow output or become exporters) may never get started because of their initial cost disadvantage.
- Sometimes, financial incentives (cash handouts or tax concessions) can encourage manufacturing firms (e.g. those connected to parts for the car industry) to restructure their operations more efficiently. These can help businesses to become more innovative and dynamic, and to develop new markets.

Table 5.2 summarises a few of the areas that receive Australian government subsidies through recent budgets. You might be familiar with them from section 3.8.1.

TABLE 5.2 Some key Australian government subsidies in recent budgets to promote help aggregate supply

Name of subsidy	Details
Export Market Development Grants (EMDG)	Managed through Austrade, these grants (e.g. \$60 million in the 2019-20 budget) seek to help firms cover up to 50 per cent of the costs involved in the promotion of their goods and services in foreign markets.
Tax Incentive Scheme	There is a Tax Incentive Scheme for investment in R&D by smaller companies involved in innovation and the commercialisation of ideas for manufacturing and rural industry. It is designed to lift productivity and sales, and accounts for around a third of all budget assistance.

(continued)

TABLE 5.2 Some key Australian government subsidies in recent budgets to promote help aggregate supply (*continued*)

Name of subsidy	Details
Farm Household Allowance	This allowance provides financial assistance and concessional loans to those experiencing financial hardship with the aim of improving their long-term situation.
Manufacturing Transition Program	This program provides finance for individual businesses moving into different areas of production.
Tasmanian Freight Equalisation Scheme	This scheme aims to reduce the transport cost disadvantage for businesses operating in that state.
Automotive Transformation Scheme	This scheme provides help that was conditional upon car companies undertaking investment to upgrade plant, equipment and technology. Despite the announced exit of local car makers Toyota, Ford and Holden by 2017, it was announced that this scheme would be retained to help firms in the automotive supply chain (such as parts manufacturers) to diversify and develop new markets.
Wage subsidies	The 2018–19 budget provided an extra \$280 million for ongoing wage subsidies to encourage employers to take on older, indigenous, rural and other disadvantaged groups, in addition to a \$2000 subsidy to older Australians upgrading their skills. The 2019–20 budget extended and increased wage incentives for employers taking on new apprentices, to \$8000, along with a special incentive payment of \$2000 for new apprentices to relieve skills shortages.
Childcare subsidies	Having access to affordable childcare allows lower income parents to increase their participation in work and grow the size of Australia's labour force.
Subsidies for some services	Subsidies paid to service industries like recreation and the arts equal to around \$2 billion annually cause additional resources to flow into these areas.
Subsidies to the coal mining industry	Cash subsidies of around \$5 per tonne are paid to coal mining companies to encourage production, consumption and employment. In addition, there are generous subsidies in the form of exemptions from fuel excise.
Subsidies for instant tax write offs for business purchases of capital items	The 2019–20 budget increased subsidies to small and medium-sized firms as instant tax write-offs for the purchase of capital items from \$25 000 (2018–19) to \$30 000 to help reduce production costs and expand capacity.
Submarine and shipbuilding subsidy	The 2016–17 budget announced generous subsidies for the building of new submarines and frigates equal to over \$800 million spread over 10 years.

How do government budget outlays on subsidies influence aggregate supply, domestic macroeconomic goals and living standards?

A case exists for the use of government subsidies *if* they are applied carefully and in moderation. Such subsidies can act as an aggregate supply budgetary measure that, in the long term, grow productive capacity, improve our international competitiveness and lift Australian living standards. By again referring to figure 5.6 earlier in this section, you can see how subsidies can help increase aggregate supply (from AS_1

to AS_2), lift national production (from GDP_1 to GDP_2) and lower cost inflation (from P_1 to P_2). In so doing, they have the potential to benefit our domestic macroeconomic goals and hence improve living standards.

Subsidies can help to boost aggregate supply and accelerate the potential rate of economic growth

There are several ways whereby targeted spending on subsidies can help to boost productive capacity and aggregate supply, and accelerate Australia's long-term sustainable rate of economic growth:

- Subsidies can be used in ways that help businesses restructure their operations, leading to better *technical efficiency* (upgrading their technology and equipment) and sometimes *allocative efficiency* (in instances of market failure). In this way, they can grow Australia's productive capacity and the size of our production possibility frontier.
- Government subsidies can help to cover some of the production costs of local businesses, making them more profitable. This makes firms more willing and able to increase their capacity and output.
- Subsidies can allow local businesses to sell at a lower price, making them more internationally competitive. This can also help local firms grow their market size and sales volumes, enabling them to gain economies of large-scale production.

Subsidies can help to boost aggregate supply and slow cost inflation

Government spending on subsidies can reduce production costs for businesses, thereby encouraging aggregate supply and easing inflationary pressures in *two* main ways:

- As mentioned, by meeting some of the production costs of local firms, businesses can sell their goods and services profitably at lower prices, slowing inflation.
- When subsidies are used to encourage businesses and industries to restructure their operations more efficiently, they again help reduce cost pressures and inflation.

Subsidies can help to boost aggregate supply and lower unemployment

When subsidies are used to correct market failure and improve the efficiency of local businesses, they can help to reduce structural unemployment:

- Subsidies can make firms more profitable by covering some of their costs or by encouraging greater technical and structural efficiency. In turn, lower costs and improved competitiveness help to strengthen profits, cause fewer business closures and encourage business expansion. This lowers structural unemployment in the long term (despite a possible rise in unemployment in the shorter term during the industry's restructuring phase).

Subsidies can help to improve living standards

Targeted budget outlays on subsidies can help strengthen some aspects of material and non-material living standards:

- By helping to accelerate the sustainable rate of GDP growth, slowing inflationary pressures and assisting employment in the long term, subsidies can help to grow average real incomes and the purchasing power of individuals, creating optimal conditions for better *material* living standards.
- Subsidies can reduce market failure due to the underproduction of public goods that are socially beneficial or that reflect the existence of positive externalities (benefits that are usually ignored by profit-seeking owners of resources). In so doing, they can improve allocative efficiency and more fully maximise the extent to which society's wants are satisfied. This improves living standards.
- Subsidies paid to consumers of goods and services (like solar panels and rainwater tanks) can help ease environmental problems (such as carbon emissions and climate change), reduce negative externalities (such as those associated with power production and consumption) and improve non-material living standards.

Weaknesses of government budgetary spending on subsidies as an aggregate supply policy

So far we have seen that subsidies can be considered to be an aggregate supply policy that can make conditions more favourable for Australian businesses and grow our potential GDP, leading to better living standards. However, the payment of subsidies does have some weaknesses:

- The payment of subsidies to one group or industry in a way represents a tax levied on other individuals or businesses. There is an opportunity cost or trade-off in terms of other budget outlays (such as education, infrastructure, health and welfare) that cannot go ahead, or have to be cut. The government needs to carefully weigh up what is forgone and think of which outlays promote the greatest public benefit. In addition, the government's financial or budget position will be weakened (perhaps creating bigger budget deficits), especially in the short term.
- Subsidies can sometimes reduce efficiency in the allocation of resources by diverting them into areas of cost disadvantage (see topic 3). Additionally, some subsidies can allow local firms to remain inefficient and avoid restructuring their production more competitively or perhaps undertaking R&D. As a consequence, subsidies can reduce our productive capacity and living standards.
- Subsidies can lead to government failure and unintended consequences (e.g. subsidies to the coal industry). They can reduce society's welfare by being less efficient than the free operation of the price system.
- Subsidising inefficient industries or firms rarely creates jobs in the long term.
- Subsidies are easier to give than take away, even when they are no longer needed.
- Subsidies are not always transparent and may be subject to political abuse designed to buy popularity with particular groups of voters or geographic regions.
- Subsidies designed to boost the production or supply of particular goods and services can damage the environment and non-material living standards (unless they are designed to mitigate negative externalities).
- Subsidies used to bail out companies and financial institutions when they have made losses, as occurred after the global financial crisis (GFC) in the United States, can actually encourage that type of irresponsible behaviour.

5.3.4 How government budget research and development grants can grow aggregate supply

Government spending on research and development (R&D) represents another budget outlay that can be used to expand Australia's productive capacity and grow the aggregate supply line (as well as stimulating the level of aggregate demand).

Grants (like subsidies) can create incentives. **Government R&D grants** involve either cash payments or generous tax incentives or write-offs up to 150 per cent of the cost of R&D expenditure. They are provided to institutions, universities, industry and individuals to help grow the quality of Australia's capital goods and human capital by increasing our technical and dynamic efficiency. In the long term, these outlays can expand our economy's productive capacity or potential GDP.



A recent Australian Innovation System Report by the Department of Industry, Innovation and Science highlighted the importance of innovation encouraged by R&D, perhaps through government budget grants. For example, the Organisation for Economic Co-operation and Development (OECD) estimates that perhaps up to 50 per cent of a nation's long-term rate of economic growth can be attributed to the level of *innovation*. Experts estimate that every \$1 spent on Australian R&D by the public and private sectors produces an average benefit or return of \$2 worth of increased business sales. This is because innovation greatly contributes to better efficiency in the use of resources, improved competitiveness, stronger business sales and profits, more jobs, higher incomes and better living standards.

Additionally, R&D tax concessions make it more attractive by offsetting part of the cost. These should enable the development of new products and inventions that can be sold to consumers here and around the world and/or bring social benefits (positive externalities) that make society better off and raise the quality of life.

Government R&D grants share these common features:

- It is hard for the government to pick projects with real potential and predict winners.
- Returns on R&D can sometimes be low and uncertain (often discouraging the private sector from investing in this area). In addition, any returns often take time to produce results.
- Grants help to reduce the private costs of research and, with strong laws on intellectual property rights; they increase private benefits and incentives for researchers as well as generating potential social benefits for the community.



The federal government's recent policy on R&D grants

As shown in figure 5.12, the federal government plays an important role in financing various types of R&D through its grants programs (including tax concessions for businesses undertaking appropriate research).

Figure 5.12 outlines the following:

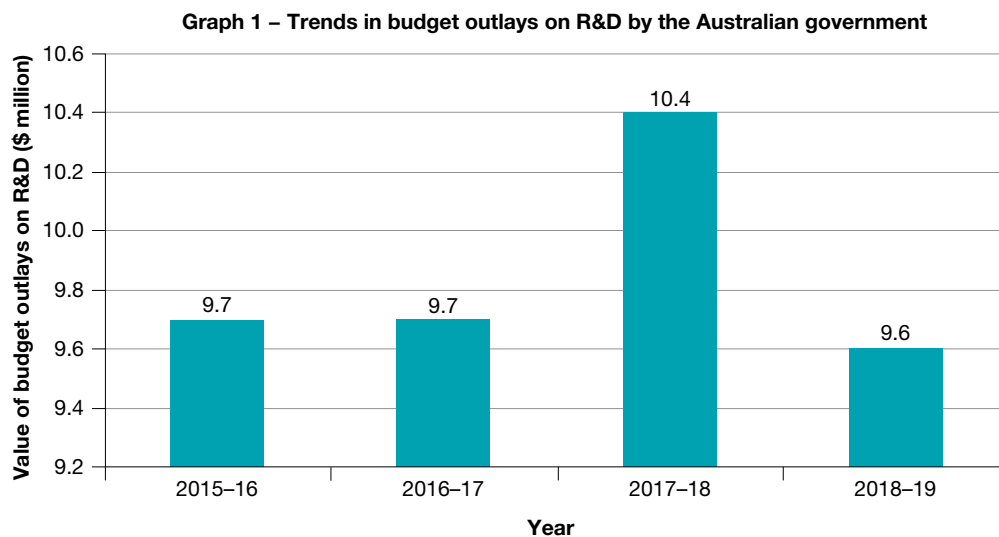
- Graph 1 indicates that after a peak in the Australian government's funding of R&D in 2017–18, regrettably it is estimated to fall back to the previous levels in 2015–16 and 2016–17.
- Graph 2 shows the general estimated breakdown in government R&D grants of \$9.6 billion for 2018–19 across the various sectors, where the higher educational institutions and the private business sector (mostly through tax concessions) together took over 60 per cent of all grants. This was followed by the government sector (including research agency the Commonwealth Scientific and Industrial Research Organisation, or CSIRO) and multi-sectors (rural, health and medical, energy and environmental research).

More specifically, highlights of R&D funding from the 2017–18, 2018–19 and 2019–20 budgets include the following:

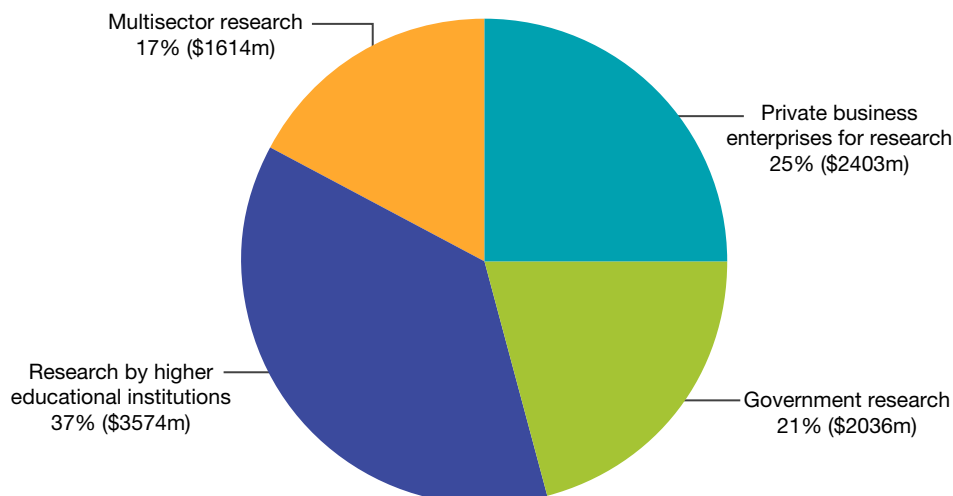
- While the government allocated an impressive \$9.6 billion in the 2019–20 budget to R&D through grants and tax concessions, the last two budgets have, nevertheless, cut over \$4 billion from the initially ambitious four-year National Innovation and Science Agenda that started in 2016–17.
- The 2019–20 budget announced that there will be nearly \$480 million in funding for research into type 1 diabetes, traumatic brain injury, tuberculosis and genomics.

- The 2018–19 budget directed over \$101 million into the Advanced Manufacturing Fund for the next five years. This is designed to develop Australia’s capacities for high-value manufacturing with laboratories set up in South Australia and Victoria.
- Funding of \$26 million in the 2018–19 budget was outlined for astronomy research programs, including collaboration with some European nations.
- R&D tax offsets or incentives are included, allowing business firms conducting eligible R&D to claim up to \$3 billion in costs, thereby reducing their tax liability and costs. Following the R&D Tax Incentive Review, the 2018–19 budget revised the principles used by firms to claim tax breaks for R&D costs. In particular, large firms will gain capped breaks at a lower rate to improve accountability, effectiveness and the integrity of the system.
- During 2017–18, the Medical Research Future Fund (MRFF) is expected to distribute about \$121 million for specific medical R&D projects to organisations.

FIGURE 5.12 Snapshot of the Australian government’s grants for R&D



Graph 2 – Estimated percentage of all federal government R&D grants by sector, 2018–19



Source: © Commonwealth of Australia 2018 Science, Research and Innovation Budget Tables Snapshot, 2018-19.

How does government spending on R&D influence aggregate supply, domestic macroeconomic goals and living standards?

Government grants for R&D are an aspect of budgetary policy mostly designed to improve Australia's technical and dynamic efficiency, and by doing so, grow the productive capacity of the Australian economy. Potentially, this policy can help to create more favourable conditions for the achievement of our key domestic macroeconomic goals, and therefore advance general living standards. Let us look at the specific ways in which R&D grants might help.

R&D grants help to boost aggregate supply and accelerate the potential rate of economic growth

R&D grants help increase Australia's sustainable rate of economic growth and potential GDP:

- By encouraging innovation, expanding information, understanding and new ideas, government R&D grants can promote dynamic and technical efficiency. This grows our access to resources (human capital) needed to develop our production possibility frontier or capacity. Again, referring to figure 5.6 earlier in this section, these grants help to shift the AS line on the AD–AS diagram, out and to the right (from AS_1 to AS_2). In the long term, this increase is likely to grow national production (from GDP_1 to GDP_2) while slowing inflation (the fall from P_1 to P_2).
- R&D grants help to create more favourable aggregate supply conditions. They help to lower the production costs and raise the profitability of firms wanting to develop new products. This can make them more internationally competitive and ultimately lead to greater economies of large-scale production, strengthening economic growth.

R&D grants help to boost aggregate supply and slow cost inflation

R&D grants can eventually help to improve the efficiency of resources, so more output is gained from fewer inputs. As mentioned, this can translate into lower production costs for producers and help to ease inflationary pressures.

R&D grants help to boost aggregate supply and lower unemployment

R&D grants can have mixed effects on Australia's unemployment rate:

- It is possible that R&D grants may lead to innovation, or the restructuring of production to cater for new processes and products. Unfortunately, this can lead to structural unemployment in the short term. However, in the long term, failure to innovate will cause industries to go into decline and die. So, although there should be many new jobs created by innovative businesses, these may be in different industries or areas, and involve the employment of staff with different skills, requiring effective education and training policies.

R&D grants can help to improve living standards

R&D grants can improve our living standards:

- *Material living standards* may be strengthened by using R&D grants to raise efficiency and therefore real GDP, incomes, and consumption per capita. Grants also make local firms more internationally competitive and thereby create more employment opportunities. In addition, through greater efficiency, R&D grants can lower inflation. This too helps to improve the purchasing power of incomes.
- *Non-material living standards* may benefit from specific R&D grants for renewable energy and the reduction of emissions that accelerate climate change and severe weather events that would otherwise reduce the quality of life. In addition, by creating new jobs in the long term, unemployment could be lowered, improving outcomes for health, happiness, family and community.

Weaknesses of government budgetary spending on R&D

R&D grants through the budget have certain limitations:

- Following a review of R&D tax concessions several years ago, it was found that it was too easy for some large companies to rort the system so there was little to show for the substantial budget cost.
- There are often quite long impact time lags between providing the grants and seeing their effects on innovation and efficiency. They are not a short-term solution.

- R&D grants come with no guarantee of success. Results are uncertain. Indeed, the money might produce no benefit, increasing the opportunity cost of the government's decision and lowering society's wellbeing.
- Given the government's weakened budget position following the GFC, there have been financial constraints on the use of this policy. This helps to explain the recent decline in government outlays on R&D grants as a percentage of GDP.

on Resources

-  **Weblinks** Government intervention — producer subsidies
- Subsidies
 - The economics of infrastructure
 - Increased interest in infrastructure
 - Economics of education

5.3 ACTIVITIES

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Check your understanding

1. What are aggregate supply budgetary policies?
2. What are the main types of aggregate supply budgetary policies?
3. How might aggregate supply budgetary policies help promote Australia's domestic macroeconomic goals and living standards?

Applied economic exercises

1. This question is about aggregate supply aspects of budgetary policy.
 - (a) In what *general* ways can budgetary policy be seen as a branch of the Australian government's aggregate supply policy? Illustrate and explain the expected aggregate supply-side impacts of this policy on a fully labelled AD–AS diagram, hypothetically showing the *before* and *after* situations. **(3 marks)**
 - (b) For the period 2019–20 to 2028–29, the Australian government announced massive national infrastructure projects worth tens of billions of dollars.
 - i. Giving examples, explain what is meant by *national infrastructure investment*. **(2 marks)**
 - ii. How are these projects paid for, and what budget implications might they have? **(1 mark)**
 - iii. In what specific ways might increases in national infrastructure investment affect Australia's level of aggregate supply? **(3 marks)**
 - iv. Outline how you would expect infrastructure projects to affect the Australian government goals regarding the inflation rate and a sustainable rate of economic growth. **(4 marks)**
 - v. Identify and outline *two* important weaknesses of using investment in infrastructure as an aggregate supply-side measure to promote key domestic macroeconomic goals and living standards. **(2 marks)**
 - (c) The government uses billions of dollars of budget outlays to direct extra resources into education and training.

TABLE 5.3 Federal government outlays on education and training by area

	Actual	Estimates			Projection
	2017–18	2018–19	2019–20	2020–21	2021–22
Subfunction	\$m	\$m	\$m	\$m	\$m
Higher education	9676	9704	9856	10 118	10 256
Vocational and other education	1795	1675	1699	1697	1723
Schools	18 299	19 641	20 880	22 513	23 917
<i>Non-government schools</i>	11181	11956	12554	13518	14245
<i>Government schools</i>	7118	7684	8326	8995	9673
School education — specific funding	673	691	742	561	209
Student assistance	2923	2675	2752	2767	2849
General administration	380	388	420	391	385
Total education	33746	34773	36350	38047	39339

Source: © Commonwealth of Australia.

- i. Referring to table 5.3, outline the key areas and relative importance of federal government budget outlays on education and training for 2018–19. **(2 marks)**
- ii. In what ways is education spending regarded as an aggregate supply policy? **(2 marks)**
- iii. Giving reasons, how would you expect education spending to affect the unemployment rate in the short term and in the long term? **(4 marks)**
- iv. How is education spending likely to bring about an increase in Australian living standards? **(3 marks)**
- v. Identify and explain *one* weakness of using education spending as an aggregate supply policy designed to promote domestic macroeconomic goals and living standards. **(2 marks)**
- (d) What are R&D grants, and how might they be used to increase aggregate supply and promote a faster sustainable rate of economic growth? **(4 marks)**
- (e) Discuss how subsidies as an aggregate supply-side aspect of budgetary policy would be likely to affect each of the following:
 - i. efficiency
 - ii. the aggregate supply line
 - iii. inflation
 - iv. unemployment
 - v. living standards. **(10 marks)**

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5.4 How welfare and tax reform policies are designed to influence aggregate supply and living standards

KEY CONCEPT

- how welfare and tax reform policies are designed to influence aggregate supply and living standards

Tax reform and *welfare reform* can both be regarded as aggregate supply policies. Again, using the AD–AS diagram shown in figure 5.13, we will demonstrate that each of these policies can be used to help increase Australia's productive capacity, and grow aggregate supply (shift the aggregate supply curve outwards from AS_1 to AS_2). This helps to lift the sustainable rate of economic growth (from GDP_1 to GDP_2) while slowing inflation (from P_1 to P_2). As a result, we should on average enjoy higher real incomes, purchasing power, consumption and material living standards.



FIGURE 5.13 How tax and welfare reforms can be used to grow Australia's productive capacity

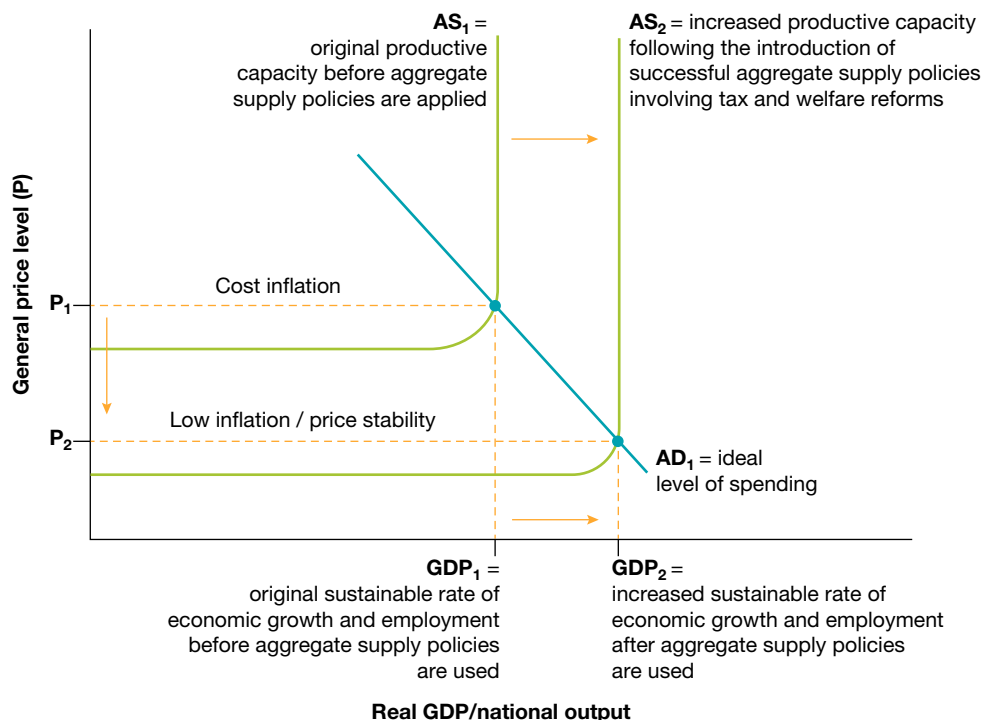
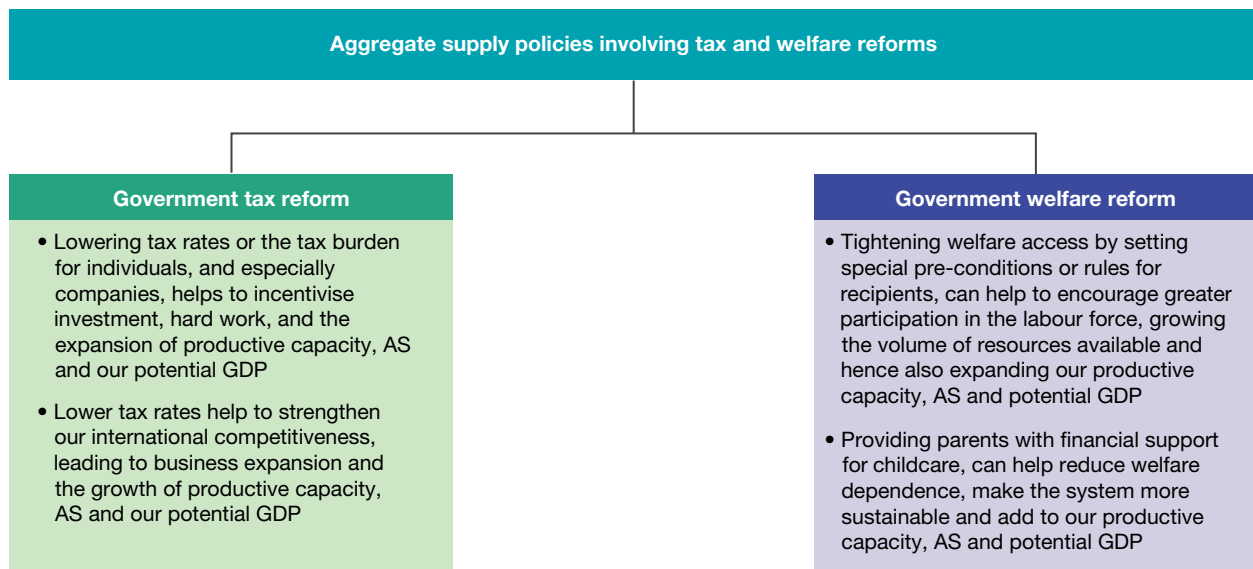


FIGURE 5.14 Overview of tax and welfare reforms as government aggregate supply policies



5.4.1 Using tax reform to influence aggregate supply

Tax reform often involves changing the ways budget revenue is collected. As an aggregate supply policy, tax reform usually focuses on:

- reducing the *tax burden* through *lower tax rates* paid by individuals and companies as a proportion of their income
- reviewing the **tax base**, coverage or inclusiveness of what particular types of things are to be taxed or not taxed (which goods or services, which income, what assets)
- improving the *tax mix* or combination of different types of tax used to raise revenue (direct versus indirect, consumption versus income taxes)
- *reducing tax avoidance* and improving the integrity and effectiveness of the tax system.

In addition, tax reform should be guided by at least three key principles:

1. *Equity*. Taxes should be equitable keeping in mind that those on higher incomes have a greater capacity to carry more of the tax burden, reducing the gap between high- and low-income earners.
2. *Simplicity*. The tax system needs to be simple and easy for firms and individuals to follow.
3. *Efficiency*. The tax system needs to encourage or incentivise effort and the earning of incomes by individuals and businesses, and have a minimum of red tape in administration.

Through these types of changes, governments seek to *increase the incentives* for businesses to invest and produce, encourage individuals to work harder by rewarding effort, and strengthen Australia's international competitiveness. Overall, tax reforms can help to grow the economy's efficiency, productive capacity, potential GDP and the level of aggregate supply, and through these effects, advance Australia's domestic macroeconomic goals and living standards.

Tax reform is especially vital to help maximise Australia's economic potential in the face of our *ageing population* (where an increasing percentage of the population is not earning income or paying taxes) and the prospect of large, unfunded structural budget deficits extending into the future. In addition, when making reforms, governments need to bear in mind three important considerations: taxes should be simple, efficient and equitable.

The federal government's recent policy involving tax reform

Various governments have recognised that the tax system periodically needs to be reformed or changed. Reforming Australia's tax system is an ongoing process because of shifting domestic and international developments. Table 5.4 highlights some of the key *tax reforms*.

Despite the odd exception (mostly due to the need to reduce the size of the budget deficit), it can be seen that the federal government has overall *simplified and reduced tax rates*.

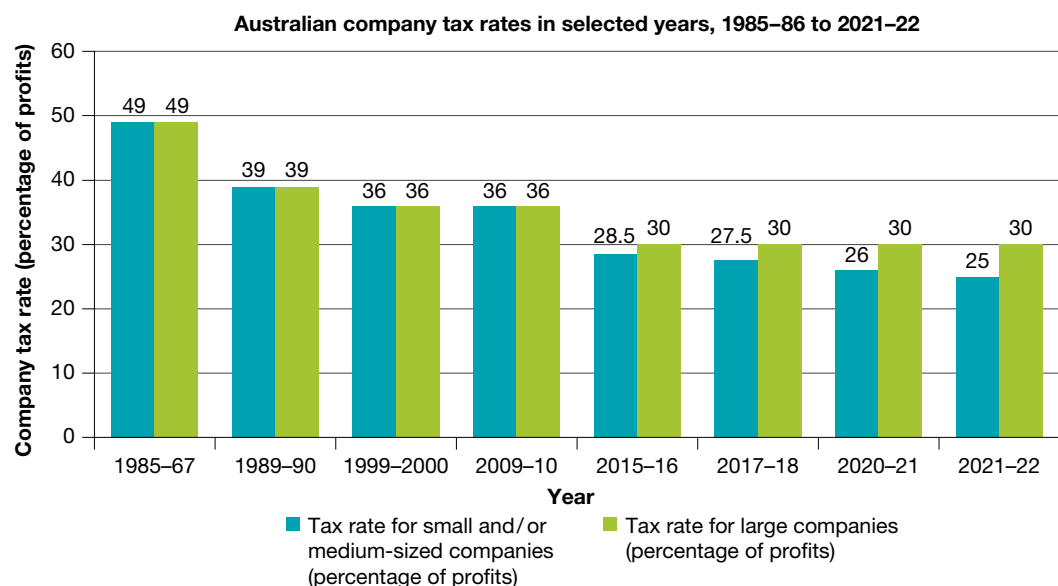


TABLE 5.4 A snapshot of the Australian government's key microeconomic tax reforms

Name of tax	Outline of key tax reforms	Top rate in 2018–19	Historical top rate
PAYG income tax	There have been many changes to Australia's personal income tax system: • 2012–13 — from July 2012, the tax-free income threshold was increased from \$6000 to \$18 200. • 2013–14 — the Medicare levy was increased from 1.5 to 2.0 per cent of taxable income to pay for the National Disability Insurance Scheme (NDIS). • 2014–15 to 2016–17 — there was an additional 2 per cent temporary budget repair levy for those in the top marginal tax bracket, increasing the top marginal tax rate from 45 to 47 per cent before adding the 2 per cent Medicare levy. • 2017–18 — there was some tax relief for low- and middle-income earners by lifting the upper income cut-off for the 32.5 per cent tax bracket from \$80 000 to \$87 000, thereby incentivising effort and hard work. • In July 2019, a progressive three-stage reform package for personal income tax was finally passed by the Parliament: • Stage 1 (2018–19/ 2021–22): the upper income cut-off for the 32.5 per cent tax bracket was increased from \$87 000 to \$90 000 starting from July 2018, along with a rise in the low-middle income tax offsets, providing relief for low- and middle-income earners. • Stage 2 (2022–23/ 2023–24): the upper income cut-offs for the 19 and 37 per cent tax brackets will be increased from \$37 000 to \$45 000 and from \$90 000 to \$120 000 respectively, starting July 2022, along with rises in the low-middle income tax offsets, thereby providing further relief for low- and middle-income earners.	In 2018–19, the top marginal rate is 47 per cent, made up of the 45 per cent standard top tax rate plus the 2 per cent Medicare levy.	75 per cent (<1951–52)

TABLE 5.4 A snapshot of the Australian government's key microeconomic tax reforms (*continued*)

Name of tax	Outline of key tax reforms	Top rate in 2018–19	Historical top rate
	• Stage 3 (2024–25): the 32.5 and 37 per cent tax brackets will be abolished and replaced with a single 30 per cent tax bracket covering incomes from \$45 001 to \$200 000 starting July 2024, which, along with rises in the low-middle income tax offsets, will provide further incentive and relief for low-middle- and high-income earners. Note: See Table 5.5 for more information.		
Company tax	Rates of company tax have and are being lowered as part of tax reform. These have included the following: • 2000–01 — the tax rate on company profits was lowered from 36 to 34 per cent. • 2002–03 — the company tax rate was further reduced to 30 per cent. • 2015–16 — the company tax rate for smaller businesses with a turnover less than \$2 million was cut to 28.5 per cent. • 2016–17 — The company tax rate for small to medium-sized businesses with an annual turnover less than \$10 million was cut to 27.5 per cent. • 2017–18 — the definition of small to medium-sized companies was broadened to turnover of up to \$25 million so even more companies would benefit from the 27.5 per cent tax rate. • 2018–19 — the 27.5 per cent tax rate was extended to small and medium-sized firms with an annual turnover up to \$50 million. • 2020–21 and 2021–22 — further reductions in the tax rate to 26 and then 25 per cent have already been legislated for small and medium-sized companies. However, it is possible this could change.	30 per cent for large companies and 27.5 per cent for 2018–19 for small to medium-sized companies with an annual turnover less than \$50 million.	49 per cent (1986–88)



Source: © Australian Taxation Office for the Commonwealth of Australia.

(*continued*)

TABLE 5.4 A snapshot of the Australian government's key microeconomic tax reforms (*continued*)

Name of tax	Outline of key tax reforms	Top rate in 2018–19	Historical top rate
Capital gains tax (GGT)	Capital gain tax is levied on the proceeds or gains after the sale of an asset like property and shares. • 1986–87 — the tax rate on capital gains (except on the family home, which is exempt) was effectively halved — only 50 per cent (not 100 per cent as before) of the capital gain was to be taxed. • 2018–19–20 — there is debate about the fairness of this tax discount between the Coalition and Labor Party.	The maximum rate of 23.5 per cent (including the Medicare levy applies)	NA (before 1986)
Superannuation tax concessions	For many years, Australian governments have wanted to encourage superannuation by providing generous tax concessions for contributions and end benefits. Their hope is to reduce the number of people dependent on the old age pension that is assets and means tested. • 2012–13 — the treasurer reduced the maximum concessional contribution for tax from \$50 000 to a limit of \$25 000 — also the current limit. • 2019–20 — there has been discussion about the equity and efficiency of generous concessions that are especially enjoyed by the rich and weaken the budget outcome.	15 per cent contributions tax up to the concessional limit (zero rate for end benefits withdrawn after age 60)	30 per cent (1983 on lump sum payments above a threshold)
Tariffs	Tariffs are an indirect tax added onto the price of imported goods making them dearer and protecting local industry. Over the last 40 years or so, these have been reduced. • 1996–97 — by 1996, the general tariff rate on most manufactured imports had been dramatically reduced from 38 per cent in 1968–69 to only 5 per cent, where it has remained. • 2010–11 — the tariff rate on imported cars was cut from 10 to 5 per cent, and the tariff on textiles and clothing came down from 15 to 10 per cent. • 2015–16 — the tariff on textiles and clothing was reduced to the general rate of just 5 per cent or less.	5 per cent or less (general tariff rate)	38 per cent (general tariff rate, 1968–69)
The carbon tax	The carbon tax was levied between July 2012 to late 2014, on Australia's 500 environmentally dirtiest companies, starting at \$23 per tonne of CO₂. It was seen as a way of internalising costs or negative externalities associated with carbon emissions and climate change. • 2014 — this tax was abolished partly because of concerns about its effectiveness and the unintended consequences that reduced the international competitiveness and expansion of some Australian industries.	0 per cent	The starting rate was \$23 per tonne of carbon emissions

TABLE 5.4 A snapshot of the Australian government's key microeconomic tax reforms (*continued*)

Name of tax	Outline of key tax reforms	Top rate in 2018–19	Historical top rate
Other tax changes	Some multinational companies have been able to shift their tax liability from Australia to a lower tax offshoot overseas, reducing the revenue collected by the government. To counter this, a <i>Diverted Profits Tax</i> of 40 per cent was applied starting in 2017–18.	Nominal rate of 40 per cent	Nominal rate of 40 per cent
	Large Australian banks (with liabilities exceeding \$100 billion) enjoy a privileged position and make extra ordinary profits. In 2017, it was felt that they should contribute more to budget receipts and so the major <i>Bank Levy</i> (tax) of 0.015% of authorised deposits was commenced	Nominal rate of 0.015%	Nominal rate of 0.015%
	<i>Extending the GST</i> to cover imported goods, so that local sellers were not disadvantaged.	Rate of 10 per cent of the value of imports	Rate of 10 per cent of the value of imports
	Other possible tax reforms that have may be reviewed in upcoming years: • changes to franking credits from share dividends • negative gearing and capital gains discounts • superannuation tax concessions for salary sacrificing.		

Source: Data derived from many sources including the Treasury's *Economic Roundup*, winter 2006; budget papers 2008–09 to 2019–20; the ATO and media reports.

TABLE 5.5 The three-stage reform of Australia's system of personal income tax (from July 2018–June 2025)

Stage 1: PAYG rates from July 2018 to June 2021–22		Stage 2: PAYG rates from July 2022 to June 2024		Stage 3: PAYG rates from July 2024	
Taxable income thresholds (\$)	Marginal tax rates (%)	Taxable income thresholds (\$)	Marginal tax rates (%)	Taxable income thresholds (\$)	Marginal tax rates (%)
\$0 to \$18 200	0	\$0 to \$18 200	0	\$0 to \$18 200	0
\$18 201 to \$37 000	19	\$18 201 to \$45 000	19	\$18 201 to \$45 000	19
\$37 001 to \$90 000	32.5	\$45 001 to \$120 000	32.5	\$45 001 to \$200 000	30 (replaces the 32.5 per cent bracket)
\$90 001 to \$180 000	37	\$120 001 to \$180 000	37	NA	NA (the 37 per cent tax bracket is abolished)
\$180 001 and over	45	\$180 001 and over	45	\$200 001 and over	45

Note: These tax reforms were substantially announced in the 2018–19 budget but were modified in 2019, and are now legislated (excluding the 2 per cent Medicare levy).

Source: © Australian Taxation Office for the Commonwealth of Australia.

Over recent years, various attempts to more aggressively reform Australia's tax system, have been patchy, partly because of the highly political nature of taxation reform and the obstacles of getting legislation approved in the Senate.

Australia's Future Tax System — the Henry Review (2010)

In 2010, the *Henry Review of Australia's Future Tax System* (AFTS) made 138 recommendations for reform including the following:

- cutting the company rate of tax to 25 per cent (the average for small to medium OECD countries)
- granting prompt tax relief for small businesses and special instant asset depreciation write-offs for tax
- introducing a resources super profits tax (RSPT) at a rate of 40 per cent on companies exploiting our non-renewable mineral resources
- using the revenue raised from the RSPT to set up a new infrastructure fund to pay for investment in economic services
- abolishing ineffective state and Commonwealth taxes including the luxury car tax, insurance taxes, payroll tax, property transfer taxes, stamp duties, tax on superannuation contributions, income taxes on government pensions and allowances, and fuel and vehicle registration taxes
- gradually increasing the superannuation guarantee levy from 9 to 12 per cent (2013–14 to 2019–20)
- reducing the generous 50 per cent tax discount applied to capital gains tax
- reducing negative gearing applied to the purchase of property that is most beneficial for the rich
- removing the Medicare levy
- reintroducing death duties applied to the value of estates belonging to deceased persons.

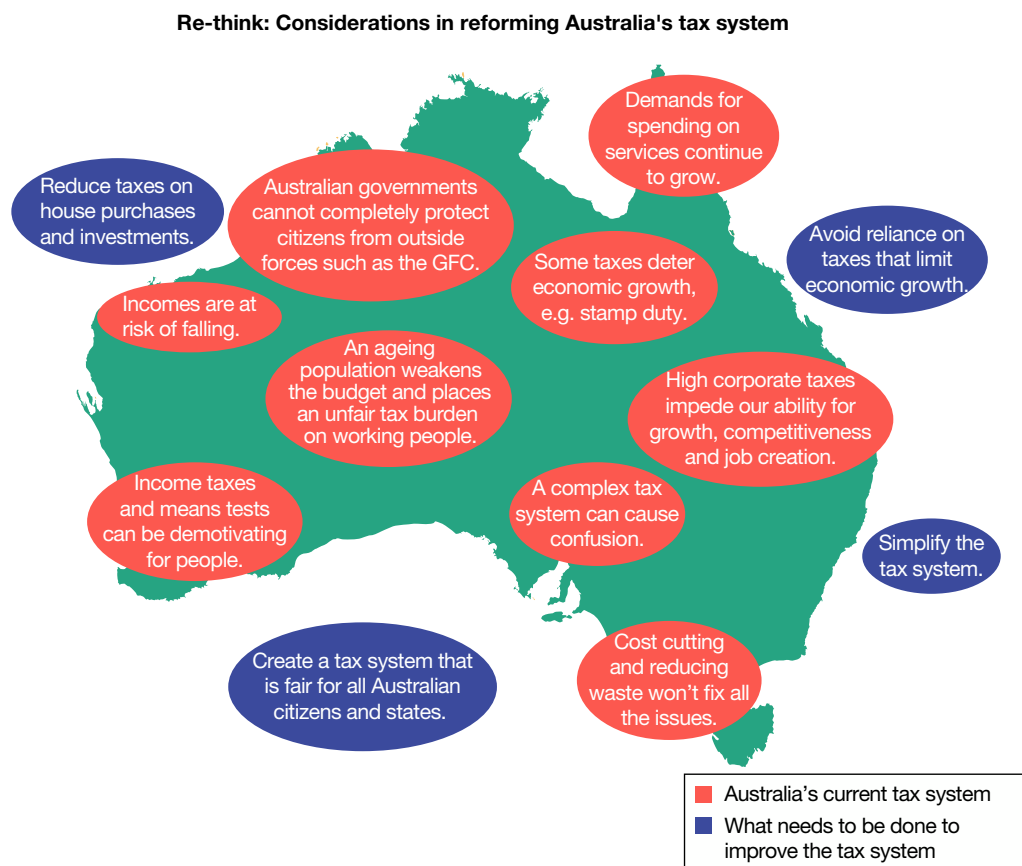
'Re:think — Better tax, better Australia' (a discussion paper on tax reform, May 2015)

In May 2015, the then treasurer released a discussion paper — 'Re:think — Better tax, better Australia'.

The general intention was to ignite debate about tax reform. It sought to:

- make taxes 'lower, simpler and fairer'
- create improved incentives for effort by business and individuals
- support improved efficiency
- reduce the obstacles to, and promote, stronger economic and employment growth.

FIGURE 5.15 Using tax reform to make Australia's taxes lower, simpler and fairer



Some of the reasons for and aims of tax reform are outlined in figure 5.15. Some tax reforms announced in recent budgets appear to pursue some of these aims. For instance, the 2019–20 budget set out a three-stage plan to reform the personal income tax system. For 2024, it announced the abolition of the 32 per cent and 37 per cent marginal tax brackets, their replacement with a new 30 per cent marginal tax rate and the lifting of marginal tax rate income thresholds for all but those on the zero rate.

How does government microeconomic tax reform policy affect aggregate supply, domestic macroeconomic goals and living standards?

Many economists argue that the government's tax reforms, mostly involving reductions in various tax rates, have helped to maximise positive *incentives* for higher levels of business investment, reward greater effort and hard work by individuals, and improve efficiency. Through greater incentivisation, they have made Australia's aggregate supply conditions for businesses and individuals more favourable, thereby growing our productive capacity. This can be seen as the outward shift of the aggregate supply line from AS_1 to AS_2 on the AD–AS diagram shown in figure 5.13 earlier in the subtopic.

The main areas of tax reform have involved the following:

- Cutting PAYG rates. Overall, significant cuts have been made to some marginal rates applied to personal income tax (PAYG) in recent budgets to 2019–20 with further reductions and reforms currently scheduled through to 2024–25. These should help to grow Australia's productive capacity and aggregate supply. Reductions in income tax may work in various ways:
 - They may help to encourage greater *personal effort* and *motivation* to work hard, seek longer hours, gain extra skills or training, pursue promotion, participate in the labour force and stay in Australia rather than go overseas where disposable incomes are often higher. Failure to cut tax rates would have diminished the quantity and quality of our human capital, lowered efficiency and eroded Australia's productive capacity and living standards.
 - They help to reduce the disincentives of *bracket creep* (also called fiscal drag) as individuals move into higher tax brackets as their incomes rise, that otherwise would cause the average tax burden to increase over time and act as a supply-side disincentive.
- Cutting company tax rates. There have been significant reductions tax rates for small and medium-sized companies over recent years taking the rate from 30 to 27.5 per cent for 2019–20. Further reductions to 26 and then 25 per cent by 2021–22 have been passed by the parliament. Furthermore, the 2017–18 and 2018–19 budgets involved the \$20 000 to \$25 000 maximum instant tax write-offs for small to medium-sized businesses purchasing capital equipment. The 2019–20 budget extended and lifted this concession to \$30 000.



Company tax reforms like these have been used to grow Australia's productive capacity and promote aggregate supply:

- Lower corporate rates create powerful *incentives* for businesses to expand through investment in new plant, equipment and technology. This boosts technical efficiency and capacity. In turn, higher efficiency helps keep production costs down and causes after-tax profits to be stronger. As a result of better returns, profit-hungry firms and individuals supposedly become more willing and able to expand production and capacity, increasing aggregate supply.

- Lower company tax rates in Australia *relative* to those *overseas* have helped to make local export and import-replacing firms even more *internationally competitive*. This has led to business expansion and the growth of aggregate supply. (Even so, Australia's company tax rates are still much higher than those in many countries in our region.)
- In addition, relatively lower company tax rates here should help to attract foreign investment that would help to efficiency, productive capacity, employment, incomes and living standards.

The overall effects of lower tax rates and other reforms of Australia's tax system can be illustrated on the AD–AS diagram. Earlier in this subtopic this was illustrated in figure 5.13, by the outward shift of our productive capacity represented by the AS curve (the increase from AS_1 to AS_2). As a result, the equilibrium level of economic activity occurs at a higher level of GDP (shown by the rise from GDP_1 to GDP_2) and employment, and at a lower level of inflation (the decrease from P_1 to P_2). With this in mind, let us now take a closer look at the likely impact of tax reform on Australia's domestic macroeconomic goals and living standards.

Tax reforms have helped to boost aggregate supply and slow cost inflation

The RBA and the government want to promote the goal of low inflation (an average rise of 2–3 per cent a year in consumer prices). Reforms that have mostly involved cutting tax rates have helped to slow Australia's rate of cost inflation:

- *Lower company tax rates* allow firms to gain stronger after-tax profits. They can sell more competitively at a lower price. Furthermore, with better profits, firms are more able to afford new technology, boosting their technical efficiency and suppressing cost inflation pressures.
- *Lower rates of personal income tax* increase disposable incomes and might help to slow demands for higher wages. This reduces cost pressures. In addition, lower rates can act as an incentive to work even harder and gain new skills, thereby lifting labour productivity, again slowing cost inflation.
- *Lower tariffs*, especially since 2015, have helped to promote specialisation in areas of comparative cost advantage. This enhances allocative efficiency, reduces opportunity costs and eases cost inflation pressures.
- The *abolition of the carbon tax* has increased the after-tax profits of some businesses, allowing them to sell competitively at lower prices (although this probably had adverse impacts on CO₂ emissions and the environment).

Tax reforms have increased aggregate supply and the sustainable rate of economic growth

The government seeks to have the highest sustainable rate of economic growth that does not add to inflation (namely, when chain volume GDP grows by an average of around 3 per cent a year). Apart from its effects on aggregate demand, tax reform has helped to strengthen the potential rate of economic growth and the level of aggregate supply:

- *Lower personal income tax rates* (e.g. 2018–24) can create greater rewards or incentives, and *motivate* individuals to work harder, work longer hours and gain promotion. They can also encourage higher rates of participation in the labour force (helping individuals avoid the welfare trap). Together, these outcomes may help to increase access to labour resources, grow productive capacity (shown by the outward shift from AS_1 to AS_2 on the AD–AS diagram in figure 5.13) and elevate Australia's potential GDP.
- *Cutting company tax rates* (2018–21) incentivises domestic and foreign investment and promotes business expansion by increasing rewards and after-tax profits. Cuts therefore help to increase both technical efficiency and intertemporal efficiency. They help to grow the economy's productive capacity and GDP.
- *Abolishing the carbon tax* (2014) has probably helped boost company profits and business expansion, growing the potential size of the economy (although this is not environmentally sustainable).

Tax reforms have increased aggregate supply and overall decreased unemployment

Another government goal is full employment, where the unemployment rate is relatively low (perhaps equal to around 4.5–5 per cent of the labour force). Lower tax rates and changes to the tax mix can help reduce

some aspects of natural unemployment (they can lower structural unemployment especially in the long term):

- *Lower rates of personal income tax* (e.g. 2018–24) can strengthen incentives to work and get a job (assuming these are available), lowering voluntary unemployment. Importantly too, lower rates may lift worker productivity, slow business costs and make local firms more competitive at home and abroad. This can reduce the number of business closures, encourage expansion and cut structural unemployment.
- *A reduction in the company tax rate* (2018–21) for small business can improve after-tax profits, reduce company closures by making local firms more internationally competitive, encourage investment and expansion, and cut structural unemployment.
- Abolishing the carbon tax (2014) has also helped to improve business profitability. This has probably diminished the closure of firms and hence lessened structural unemployment, at least in the short term. However, in the long term it may lead to environmental degradation, resource depletion and more severe weather events, ultimately undermining the material and non-material living standards of future generations.

Tax reforms have generally increased living standards

Tax reform can help maximise Australia's living standards in several ways:

- By promoting lower cost inflation, tax reform has helped to grow the *purchasing power* of incomes, consumption and material living standards.
- Tax reform has increased financial incentives. These probably strengthened efficiency and our potential GDP per capita. In turn, this should lead to higher *real incomes and consumption* per head and hence material living standards. It has perhaps also helped to offset the negative effects of an ageing population on the rate of income growth.
- In helping to keep structural unemployment lower through greater efficiency and competitiveness, tax reform has generated *higher real disposable incomes* for individuals (because earnings from paid work have been higher than welfare benefits), improving our material wellbeing. In addition, lower unemployment is beneficial to the general happiness and health of families, and potentially may have helped to keep crime rates lower. This strengthens non-material living standards.

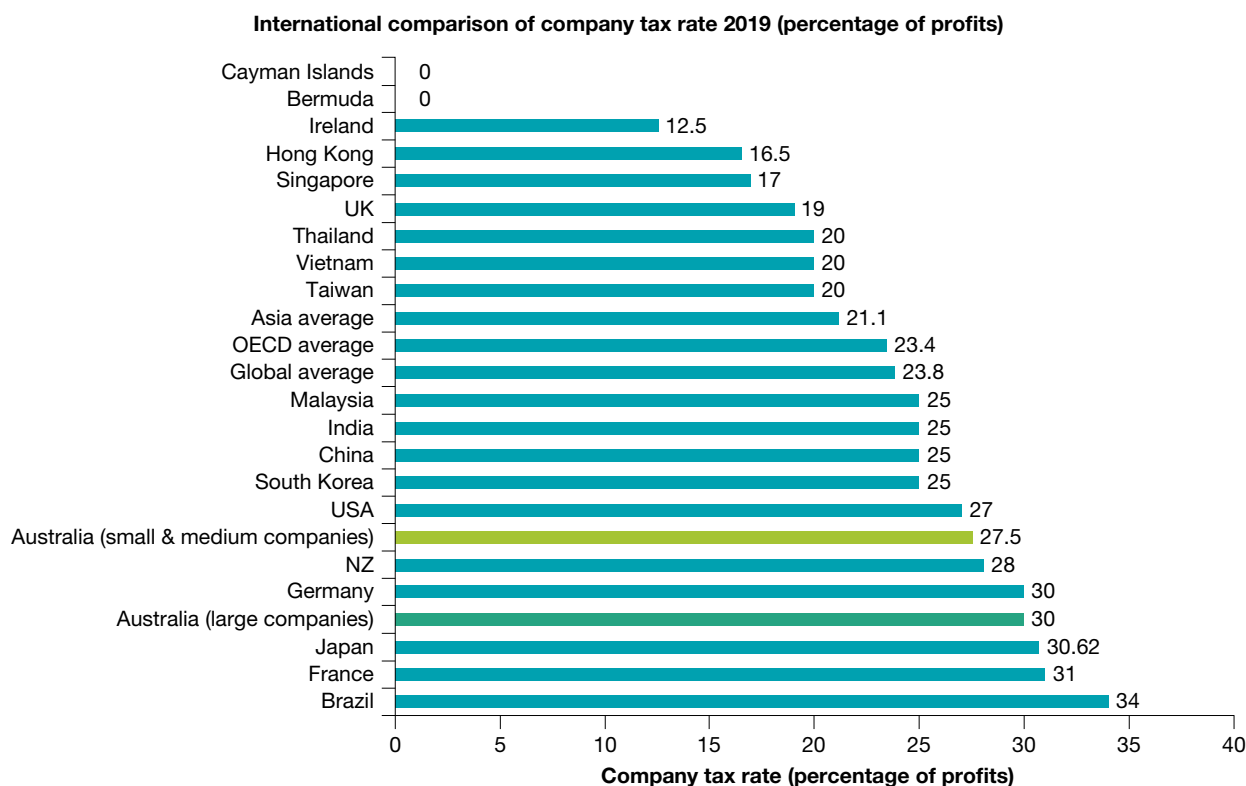
Weaknesses of government tax reform as a microeconomic policy

We have seen that tax reform involving lower tax rates offers the potential of greater efficiency and capacity, boosting aggregate supply. However, the use of this microeconomic policy has certain *weaknesses*:

- The evidence that lower rates of personal income tax boost efficiency and grow our productive capacity might be surprisingly *weak*. In fact, some economists claim the opposite: that higher tax rates will create an increased incentive and necessity to work even harder in order to get ahead and have higher incomes, especially if over-generous welfare is not an option. Lower PAYG rates might simply allow middle- and upper-income earners to use their lower tax rate to enjoy more leisure time without adding to the availability of labour resources or productive capacity.
- If generally lower tax rates do *not* significantly boost efficiency and productive capacity, the danger is that there may be no addition to real incomes. All that might happen is that tax cuts will lead to *structural budget deficits*. In addition, by reducing budget receipts, governments will not have sufficient resources to maintain the quality and affordability of public goods and services, a problem that we are now seeing in Australia. It could become a race to the bottom for the public sector (jeopardising the provision of infrastructure, education, health, transport, communications and housing), eroding future economic growth and living standards. To help minimise this risk, tax reforms should only reduce rates for those taxes that clearly *deter* effort and the growth of capacity, while generating adequate finance to strengthen the sustainability of the budget.
- For some, the main weakness of recent tax reform is that the Australian government has not gone far enough to see the full benefits of lower taxes. As shown in figure 5.16, covering 2019, despite reductions, Australia's company tax rates are still well above rates overseas. Notice for example that

the reduction in Australia's corporate tax rate to 27.5 per cent for small to medium-sized businesses in 2017–18–19–20, with 30 per cent for large companies, still leaves our rate well above the OECD average of 23.4 per cent, and well above that for Asian countries where it is just 21.09 per cent. This places Australia at a distinct *competitive disadvantage* in trade and investment, and discourages the growth of new firms and aggregate supply.

FIGURE 5.16 International comparisons of Australia's rate of company tax against rates in other nations, 2019



Source: © 2019 KPMG International Cooperative.

- Other commentators point to Australia's *over-reliance on direct income taxes* that discourage the growth of investment and efficiency, and our under-reliance on *indirect taxes* on goods and services that encourages consumption. They feel there should be a more effective tax mix.
- Another weakness of Australia's recent attempts at tax reform is the huge *political constraint* or obstacle faced by governments who lack the numbers in the upper house or Senate, sufficient to pass the necessary legislation. As a result, difficult reforms have been deferred or abandoned.
- Tax reform involving lower tax rates to increase efficiency is seen by some as conflicting with the government's pursuit of an *equitable distribution of income*. To them, lower tax rates on companies, superannuation and capital gains mostly help the wealthy, and the supply-side idea that benefits will eventually 'trickle down' to those on lower incomes, only allows the rich to become even better off.

5.4.2 Using welfare reform to influence aggregate supply

Welfare represents direct cash benefits provided by the Australian government to the neediest individuals (the unemployed, the aged, the sick, poorer families, family carers) so that they can better afford to purchase basic goods and services and enjoy reasonable living standards. Benefits are usually only provided only to those who meet the **assets** or **means test** or cut-offs, and are paid out of tax revenue. While the

primary aim of welfare is generally to help promote greater equity in income distribution, the welfare system can have other far-reaching effects on the health of the economy.

Welfare reform, as a government policy, entails changing the level of income support and the conditions or rules that must be met for individuals to access cash benefits (also called direct benefits). It is largely driven by the need to help boost economic efficiency, productive capacity and aggregate supply, as well as financial sustainability and equity. Reforms have often focused on several areas:

- increasing positive and negative *financial incentives* for individuals to participate in the labour force, and to bear the main responsibility for earning income sufficient to enjoy reasonable living standards
- reducing the *disincentives* or barriers preventing some individuals from making the best productive or economic contribution to the economy of which they are capable
- ensuring that benefits better target those in *greatest need* so as not to undermine equity, especially given current financial constraints (as a result of structural budget deficits) and rising outlays (as a result of our ageing population)
- *simplifying* the welfare system and making it more transparent and accessible for users.

As a policy, welfare reform has the potential to grow Australia's productive capacity and level of aggregate supply. This is illustrated on the AD–AS diagram in figure 5.13 (earlier in this subtopic) by the outward shift of the aggregate supply line from AS_1 to AS_2 . Welfare reform can lead to higher levels of GDP (the shift from GDP_1 to GDP_2), real incomes and average living standards, while providing an essential safety net to protect equity and the most vulnerable members of society.

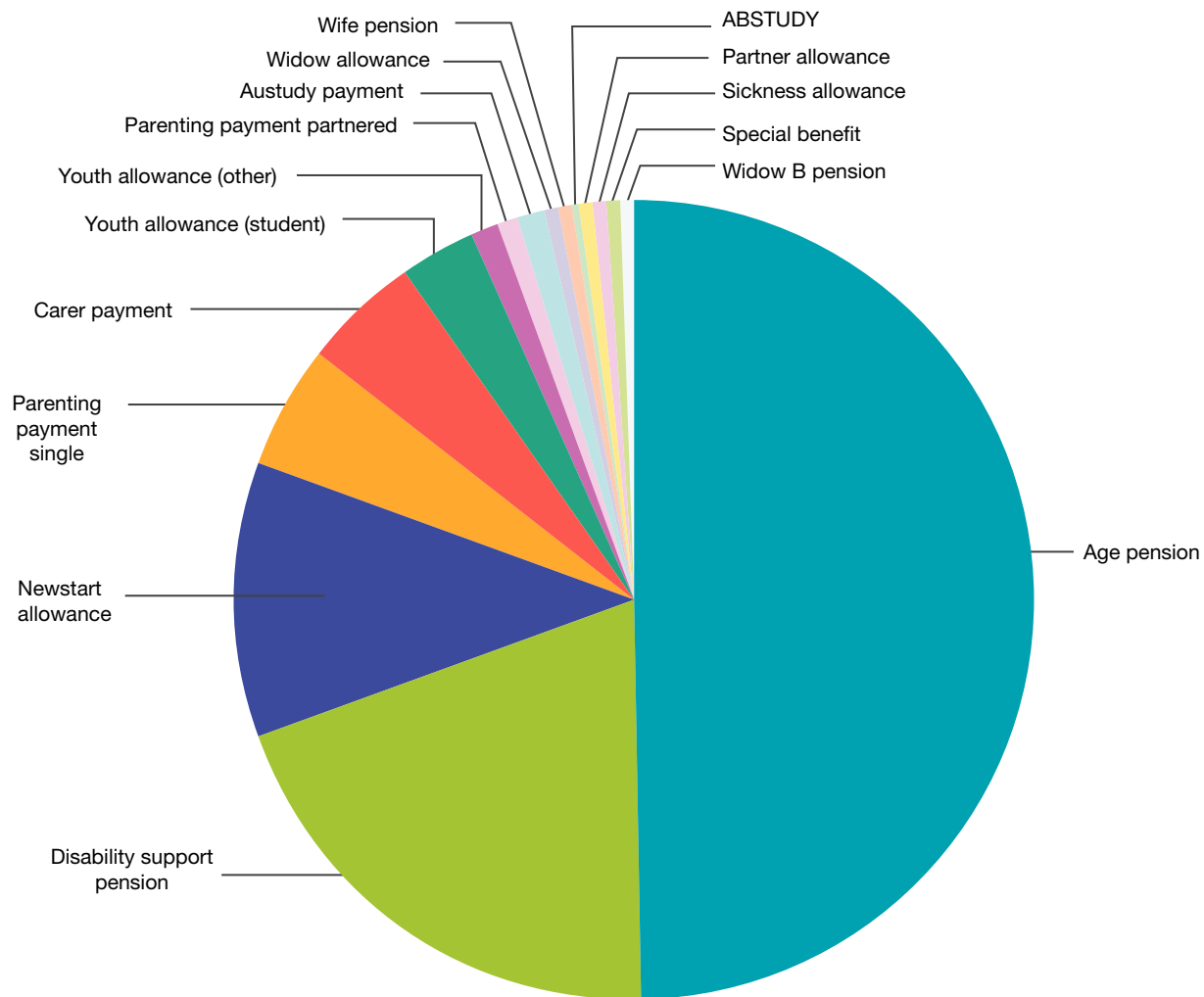
The federal government's recent policy involving welfare reform

In 2019–20, welfare is estimated to account for a massive 36 per cent (or \$180 billion) of all federal budget outlays, making it the biggest single item. As shown in figure 5.17, welfare involves cash payments to lift the purchasing power and living standards of the neediest individuals, including the aged, disabled, unemployed, students, carers and youths.

Even so, it is the government's responsibility to ensure that this welfare system is fair, simple, efficient in purpose, and financially sustainable. While changes are ongoing, recent government welfare reforms have especially focused on two main aims:

1. *To try to make the welfare system more financially sustainable.* Australia has an ageing population, a rising life expectancy and a change in the nature of work with perhaps less certain employment prospects. If not addressed, these issues will cause government tax revenue to fall while pension and welfare outlays continue to rise, leading to bigger budget deficits and, ultimately, necessitating higher taxes or reduced welfare generosity. Thus, to provide essential ongoing support to the neediest, the government must take steps to ensure the system is financially sustainable into the future. In recent years, this has involved the following reforms:
 - *Better targeting of the neediest:* Welfare access has been narrowed to better target the neediest by tightening the assets test (the wealth cut-off level) and the means test (the income cut-off level) for recipients. Restricting access then leaves more money in the budget for those in greatest need.
 - *Administration costs:* Moves have been taken to try to simplify the welfare system through amalgamating some benefits, and streamlining and simplifying the application process to help reduce unnecessary administrative costs and red tape.
 - *Mutual obligation:* The government has been pushing the idea that welfare is not a right and that those who receive it have a mutual obligation to try to gain work and be financially independent.
 - *Incentives to escape welfare:* Changes have been made to help create greater incentives for recipients to escape the 'welfare trap', including adjusting the taper scales for the loss of benefits and raising the tax-free threshold so that the penalties for starting work and earning more income are reduced (limiting the negative incentives).
 - *Tightening compliance and reducing fraud:* Centrelink has made a big effort in the last few years, including measures in the 2019–20 budget, to follow up instances of non-compliance and welfare fraud by recipients that are expected to save taxpayers an extra \$2.1 billion over the next five years.

FIGURE 5.17 Major types of welfare payments (income support) by value



Source: © Commonwealth of Australia 2019 Source: Department of Social Services administrative data.

2. *To reduce the obstacles to higher labour force participation rates and work and encourage financial independence.* The government has regularly stated that people are better off socially and financially if they are working and earning incomes, rather than relying on welfare. Hence, as a key part of welfare reform, the Australian government has been looking for ways to increase Australia's labour force participation rates (i.e. the proportion of those aged 15 and over who are in the labour force) as a way of ultimately getting those who can work into jobs. Australia's participation rate of around 65 per cent is low by some international standards (e.g. Switzerland's is 82 per cent and Iceland's is over 90 per cent). One reason for our fairly low participation rate is due to declining work rates among an ageing population. In turn, this restricts our access to labour resources, adds to wage-cost-price pressures, limits Australia's productive capacity, causes the aggregate supply line to be smaller than it otherwise would be, lowers real national income per person, and reduces our material and non-material living standards.

The main problem in raising participation and involvement in work through welfare reform, is that it is still essential to support those in genuine need, while excluding those who are able to be financially independent. The possibility also exists that, in the short term, efforts to raise labour force participation

rates may actually push up the unemployment rate, since more people are trying harder to find work and compete for a limited number of jobs.

Keeping these things in mind, recent welfare reforms have attempted to increase participation rates, and, ultimately, those in work using various changes to the system:

- *Raising the pension age.* Over the last few years, the pension access age has been gradually increased from 65 to 67 (by 2023), initially with a plan to ultimately lift this to 70 years (by 2035). This reflects the rise in life expectancy and, hence, an increased potential to work longer. This should help to boost the labour force and grow our productive capacity and incomes.
- *Additional requirements for the unemployed on welfare.* Measures have been introduced to discourage voluntary unemployment by tightening the access and compliance framework requirements. These include an increase in the waiting period for welfare recipients, tightening the work test and activity test for those seeking unemployment benefits to ensure that they are ‘actively seeking work’ — including imposing a minimum number of job applications per month, requirements to turn up to job interviews or potentially face the loss of welfare, having a six-month per year period of ‘work for the dole’ (a minimum of 15 hours per week), moving the young unemployed from the Newstart allowance to the less generous and attractive Youth allowance, commencing random drug testing and the wider introduction of the cashless debit card to restrict how money is spent (e.g. not to be used for alcohol, tobacco or drugs) to help ensure that recipients are better able to hold down a regular job. Other measures include using incentives for those without work to be involved in study to help increase their employability in the long term. All up, these reforms should encourage participation and, ultimately, productive work.
- *New rules for parents on welfare caring for children.* Welfare is now normally cancelled for a parent caring for their children at home once their youngest child reaches school age (6 years). This should help increase participation rates.
- *Cashless credit card trials and random drug testing.* Recent budgets have extended the trial of the Cashless Debit Card at least until 2020, to help reduce spending of money on items like alcohol and drugs that may cause some recipients to become more welfare dependent and unable to work. In addition, random drug testing has been trailed to reduce dependence and ensure individuals are more work ready.
- *Subsidised childcare package.* Because childcare is expensive, it can act as a barrier for some parents returning to work. With this in mind measures have been introduced to help increase labour force participation rates and reduce the welfare trap by subsidising childcare so it is more affordable and attractive for low-income parents who want to work. For example, a \$36 billion Child Care Package commenced in June 2018. It benefits nearly one million households and over 1.3 million children. It includes a new Child Care Subsidy that started in June 2018, replacing the old Child Care Benefit and Child Care Rebate. It is paid directly to service providers and has reduced the out-of-pocket costs for most families by around 10 per cent. This means that families on combined incomes of less than \$66 958 per year in 2019, receive a subsidy up to 85 per cent of the cost of childcare (with lower rates applicable as income rises). Rates are capped at \$10 190 per year and also affected by the type of childcare and the work activity level of a parent (there are exemptions but, basically, the more work activity, the higher the subsidy rate). This reform measure should help to increase participation rates, the quantity of labour resources available, productive capacity, disposable incomes and living standards.
- *Income tax reforms.* It used to be easier for some individuals and families to be trapped on welfare, because this was more attractive than losing the benefit — especially because they would have to pay tax at higher rates the moment they started working and earning more income. Indeed, the effective tax rate for some low-income people making the transition to work used to be over 50 per cent. Partly with this in mind, the tax-free income threshold was dramatically increased from \$6000 to \$18 200 from July 2012 onwards. One of its aims was to ease this barrier to participation in the labour force, and to encourage individuals to be more productive and self-reliant. Furthermore, the low-income tax offset

has been regularly raised, most recently in 2019, again reducing the penalty for earning extra income and encouraging higher participation rates. In the long run, these tax and welfare changes should help to grow Australia's available labour resources, productive capacity, potential GDP, incomes and living standards.

How does government microeconomic welfare reform affect aggregate supply, domestic macroeconomic goals and living standards?

Welfare reform is essential given Australia's *ageing population* (a higher percentage of the population aged over 65). As a result, the number of people aged 65–84 years will more than double between now and 2050. Over this same period, there will be a decline in the number of people of working age relative to those aged over 65, from around five now to fewer than three! Welfare reform is hence required — not just to ensure that the welfare system is sustainable, but to ease the growing labour shortages that will increasingly limit Australia's aggregate supply, sustainable rate of economic growth and future living standards.

We have seen that recent welfare reforms have focused on improving *efficiency* in the use of labour resources so there is more output gained from Australia's population. We have also seen that reforms have involved measures designed to help increase our labour force participation rates (or perhaps slow the decrease due to ageing) by:

- tightening the rules and obligations for welfare access
- lifting the tax-free and other income thresholds to improve the incentives to work and reduce the disincentives
- improving the skills of the young to make them more employable
- providing access to affordable childcare to release more parents for work.

Through access to more labour resources, these measures will help to increase our productive capacity, grow GDP and real incomes, and support better living standards. Again referring to the AD–AS diagram shown in figure 5.13 earlier in this subtopic, reforms that boost efficiency, productive capacity and aggregate supply (shown by the shift from AS_1 to AS_2) cause the sustainable level of GDP to increase (from GDP_1 to GDP_2), while depressing cost inflation (from P_1 to P_2).

With this in mind, let us review in more detail the effects of welfare reforms on the government's domestic macroeconomic goals and living standards.

Welfare reforms have helped to boost aggregate supply and slow cost inflation

The RBA and the government seek to achieve the goal of low inflation (an annual average rise of 2–3 per cent over the cycle). Welfare reforms can help slow cost inflation pressures in several ways:

- By increasing the *supply* or pool of *labour* through higher participation rates, welfare reforms can help to neutralise labour shortages that are being caused by Australia's ageing population. In turn, this helps to slow rises in wages and hence ease cost inflation pressures.
- Tighter *welfare access* can also help to correct the unsustainable growth in government spending. This could allow for lower tax rates, easing wage and cost pressures.

Welfare reforms have increased aggregate supply and the sustainable rate of economic growth

The government seeks to promote the goal of a strong and sustainable rate of GDP growth (the fastest growth in GDP that does not undermine the achievement of other economic and environmental goals).

Welfare reforms can assist here:

- They help Australia to extract more output from our population through increased incentives and participation in work. This grows productive capacity, allowing for a higher sustainable level of GDP.
- By slowing rises in welfare outlays, the tax burden on individuals and companies is eased, creating more favourable aggregate supply conditions that encourage and enable producers to lift production.

Welfare reforms have increased aggregate supply and, overall, decreased unemployment

Full employment is another domestic goal (the lowest rate of unemployment that does not accelerate inflation). Here, welfare reforms can play an important role:

- For young people, welfare is only provided to those who are actively seeking work and can demonstrate this, or who are learning or undertaking training. This makes them more *employable*, reducing structural unemployment caused by the mismatch between skills and advertised positions.
- By helping to grow the participation rate and the supply of labour, unemployment may *rise* in the short term, unless there is also a similar growth in aggregate demand. On its own, welfare reform is therefore not sufficient.
- Higher participation rates (especially among the young, parents with children and older members of society) that increase the supply of labour may also help *ease labour shortages* and slow wage costs. This can foster stronger business profits and expansion, rather than the closure of firms. This should help to reduce structural unemployment.

Welfare reforms have generally increased living standards

Welfare reforms can strengthen both material and non-material living standards. People's real incomes and purchasing power are highest when inflation is slow, GDP is rising strongly and unemployment is low.

- Being unemployed and on welfare benefits, rather than on average weekly earnings, cuts family incomes by at least 50 per cent or more (e.g. perhaps \$300 per week on welfare against a minimum wage of nearly \$720 per week or over \$1600 on average weekly earnings), and dramatically reduces consumption per head and material living standards. In addition, the health and happiness outcomes for the unemployed are significantly weaker than those with jobs. Non-material welfare is much stronger when most people are working rather than being on welfare.
- Deferring retirement to an older age, rather than being on the pension, is also likely to bring financial, social and health benefits that improve non-material living standards.

Weaknesses of welfare reform as a government policy

We have seen how welfare reforms can be beneficial. They can help grow productive capacity by increasing access to labour resources (through improved participation rates and strengthening the need of most individuals to be in work and financially independent). However, these reforms also have certain *weaknesses*:

- Taking a big stick to the unemployed to force them into work assumes that they are *voluntarily* unemployed and have a choice in the matter. Research on this is inconclusive but does tend to show the opposite — that most are involuntarily unemployed and unable to find work or access longer hours. In 2017, critics of welfare cuts also noted that returning the budget to surplus by cutting welfare, seems very unfair when generous tax concessions are exploited mostly by higher income earners through negative gearing, the 50 per cent tax discount for capital gains and tax concessions for superannuation contributions.
- Gradually increasing the pension age to 67 (or perhaps 70 by 2035) assumes that older people are physically and mentally capable of working. While some have this option, others work in occupations that would make this virtually impossible, perhaps even dangerous (e.g. bricklayers, crane operators, airline pilots and truckies). In addition, employers are sometimes reluctant to take on older staff.
- While higher *participation rates* can lift our productive capacity, this growth in aggregate supply will not be utilised unless there is a corresponding rise in aggregate demand. Without strong spending, higher participation rates and rises in the number of people seeking employment might actually increase unemployment and the number of people on welfare. This may cause a rise in the size of the budget deficit, perhaps necessitating an increase in government debt. Another possibility is that higher labour force participation rates could slow wage growth, leading to lower real incomes, purchasing power and living standards.
- Welfare reforms that lead to higher participation rates by parents with young families may cause their children to suffer. Under-parenting could reduce happiness, add to family tension, contribute to a rise

in juvenile crime and end in poorer educational outcomes. These may reduce society's non-material living standards.

- As governments have found, welfare reform has become a difficult political issue, with legislation to enact reforms blocked in the Senate. Recently, reforms that might increase efficiency have been rejected by the Senate because they diminish equity.

on Resources



Weblinks Why tax reform?

Taxes on housing
Tax reform — online quizzes
Indirect tax
How company tax impacts living standards
Labour market reforms
How the minimum wage creates unemployment
Labour market
The labour market
Minimum wage consequences
Understanding supply-side economics

5.4 ACTIVITIES

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Check your understanding

1. What has tax reform involved? How is this an aggregate supply policy?
2. What are welfare reforms? How are they an aggregate supply policy?

Applied economic exercises

1. Examine table 5.6 which shows some of the key reforms of Australia's tax rates.

TABLE 5.6 Some key tax reforms

Company tax	In recent years, the rate of company tax has been reduced for small to medium-sized firms from 30 per cent to 27.5 per cent (26 per cent 2020-21) for firms with a turnover of less than \$50 million.
PAYG tax	The upper thresholds for marginal tax rates have been lifted in recent years reducing bracket creep and reducing the tax burden. There are also further dramatic reforms of the income tax system currently scheduled through to 2024.
Capital gains tax	Only 50 per cent of capital gains is taxed at appropriate PAYG tax rates.
General tariffs	Cut to 5 per cent or less by 1996 (down from 38 per cent in 1969), with reductions for all other industries including cars, textiles, clothing and footwear reduced to 5 per cent since 2015.
Abolition of the carbon tax	In late 2014, the Australian government abolished both the carbon tax (initially started at \$23 per tonne of CO ₂ emissions).

Concerning these reform measures involving *reductions in tax rates* (or the abolition of taxes) through the budget:

- (a) Describe how tax rates have been changed.

(2 marks)

- (b) Quoting examples, explain how reductions in tax rates, as a supply-side measure, would be likely to impact on each of the following:
- the sustainable rate of economic growth
 - unemployment and participation rates
 - our international competitiveness
 - the inflation rate.
- (8 marks)**
- 2.** This question is about *welfare reforms* as an aggregate supply policy of the Australian government.
- (a) Giving recent examples (implemented or proposed), explain what is meant by *welfare reforms* as an aggregate supply policy. **(2 marks)**
- (b) What are the main aims of welfare reform and why is reform necessary? Use an aggregate demand–supply diagram to show how these reforms might work to grow Australia’s productive capacity. **(3 marks)**
- (c) Explain how welfare reformers face a challenge because of a possible trade-off between the promotion of efficiency and the protection of equity in income distribution. **(2 marks)**
- (d) Some believe that tightening welfare access will increase Australia’s participation rates. Explain how this might occur. **(2 marks)**
- (e) Why might it be important to not simply make welfare access tighter, but also to lower the personal income tax rate for low-income earners? **(2 marks)**

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5.5 Effect of immigration policies on the labour market and aggregate supply, and the way this influences the achievement of domestic macroeconomic goals and living standards

KEY CONCEPT

- the effect of immigration policies on the labour market and aggregate supply, and the way in which this influences the achievement of domestic macroeconomic goals

In this section of the course, you are required to study *immigration policy* in so far as it impacts on the labour market and the level of aggregate supply, rather than its other more general and humanitarian features.

5.5.1 Definition of Australia’s immigration policy as an aggregate supply policy

As an aggregate supply measure, Australia’s **immigration policy** is closely geared to meeting the needs of the **labour market** in our growing economy with an ageing population. It involves several aspects:

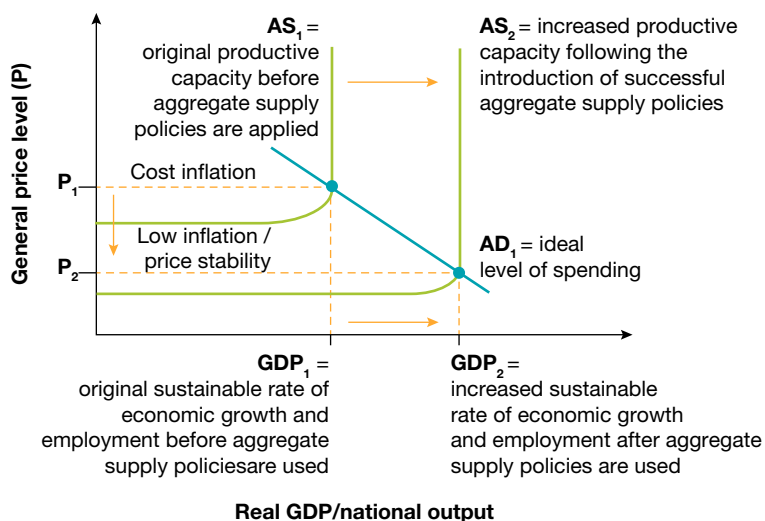
- it sets annual **immigration targets** to manage the overall number and composition of immigrants
- it gives priority to immigrants who have *special types of skills and talents*
- it encourages those in *younger age groups* who are more likely to make a valuable and ongoing economic contribution to the Australian economy.

FIGURE 5.18 By using these immigration policies, the Australian government hopes to grow the size and skills of our labour force, partly reversing the effects of an ageing population. It also hopes that this policy will reduce **labour bottlenecks** and increase the nation's productive capacity. This could allow for a faster potential rate of economic growth and improved material living standards.



Again returning to the AD–AS diagram in figure 5.19, we can see that immigration can be used to grow Australia's labour resources and productive capacity, cause a rise in aggregate supply (notice the outward shift from AS_1 to AS_2) and boost the sustainable level of national production (the shift from GDP_1 to GDP_2). Potentially, this can help strengthen our domestic macroeconomic goals, international competitiveness and material living standards.

FIGURE 5.19 How effective immigration policy can potentially be used to grow Australia's level of aggregate supply, GDP and material living standards

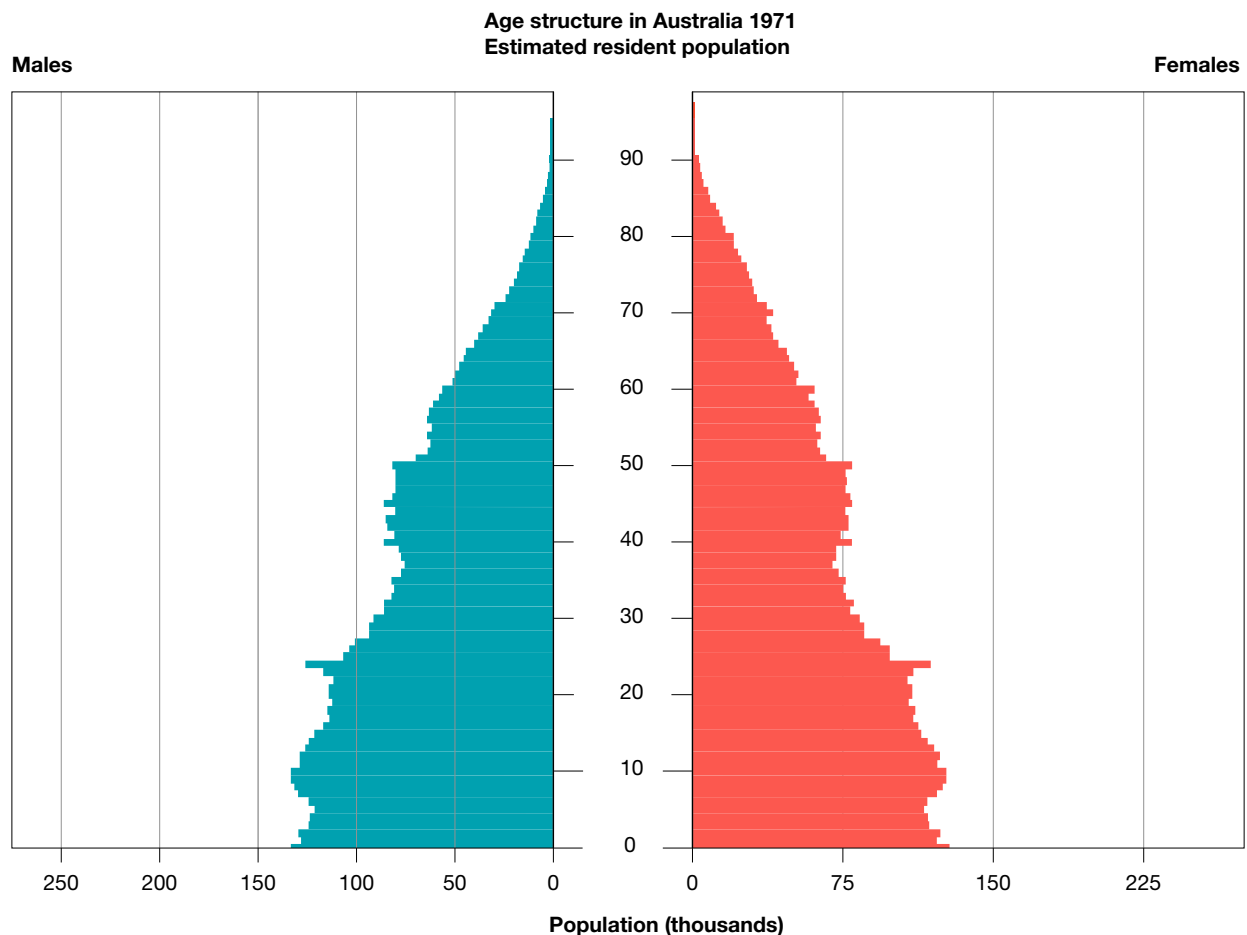


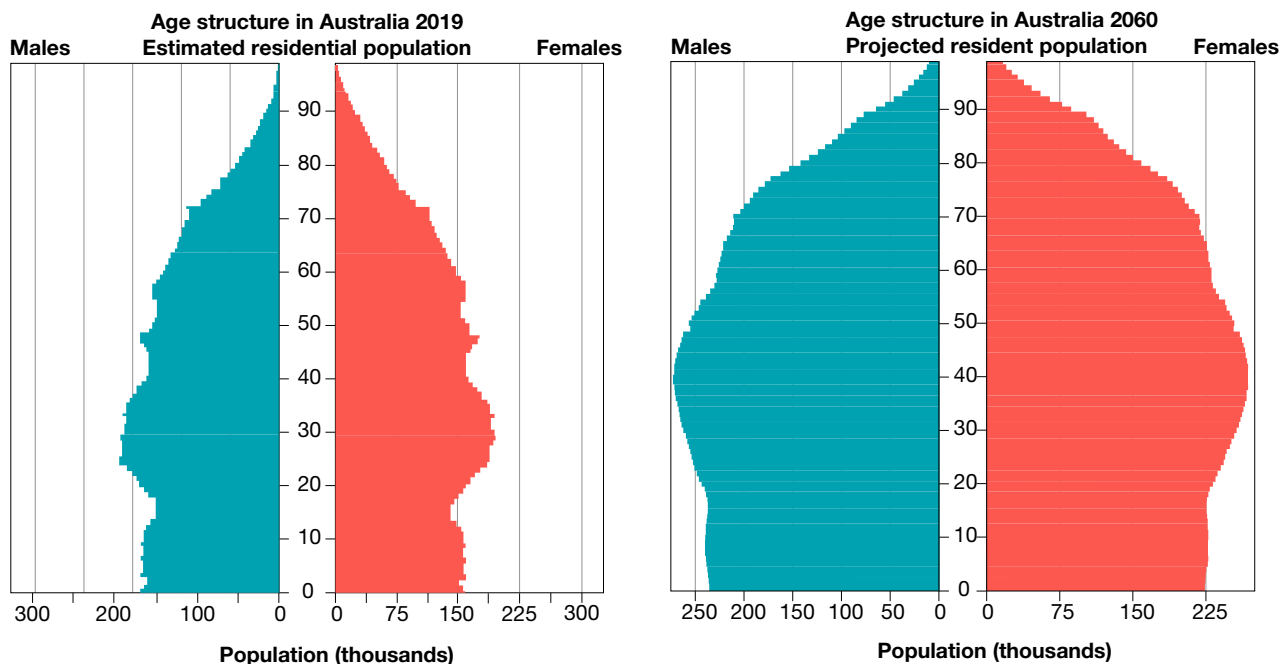
5.5.2 Background to Australia's immigration policy

To better understand the Australian government's immigration policy, it is helpful to know something of the background of our current immigration policy. There are several developments or ideas that have shaped, and are continuing to shape, policies in this area:

- *Australia is underpopulated for the resources we have.* Following the end of World War II, Australia was seen as a vast underpopulated country with massive natural resources just waiting to be exploited. With this attitude, immigration was needed. 'Populate or perish' was the slogan of the time. During the 1950s and 1960s, the federal government even offered to pay the cost of the boat passage to Australia, in order to quickly boost European migrant numbers and reach its target level. More recently, however, there is a growing recognition that our resources are getting scarcer and that a 'big Australia' could have costs.
- *Australians are ageing.* Australia has an ageing population. This means that a growing proportion of the population is in older age groups nearing or beyond retirement. If no action is taken to correct this problem, perhaps through immigration or other measures to increase the birth rate, serious economic problems will arise. The extent of Australia's ageing population can be seen in figure 5.20, which compares *population pyramids* (showing the age–sex distribution of a population) at three points in time: 1971, 2019 and 2060 (projected).

FIGURE 5.20 Comparing Australia's population pyramids showing changes in the age–sex distributions for 1971, 2019 and 2060 (projected)





Source: © Commonwealth of Australia.

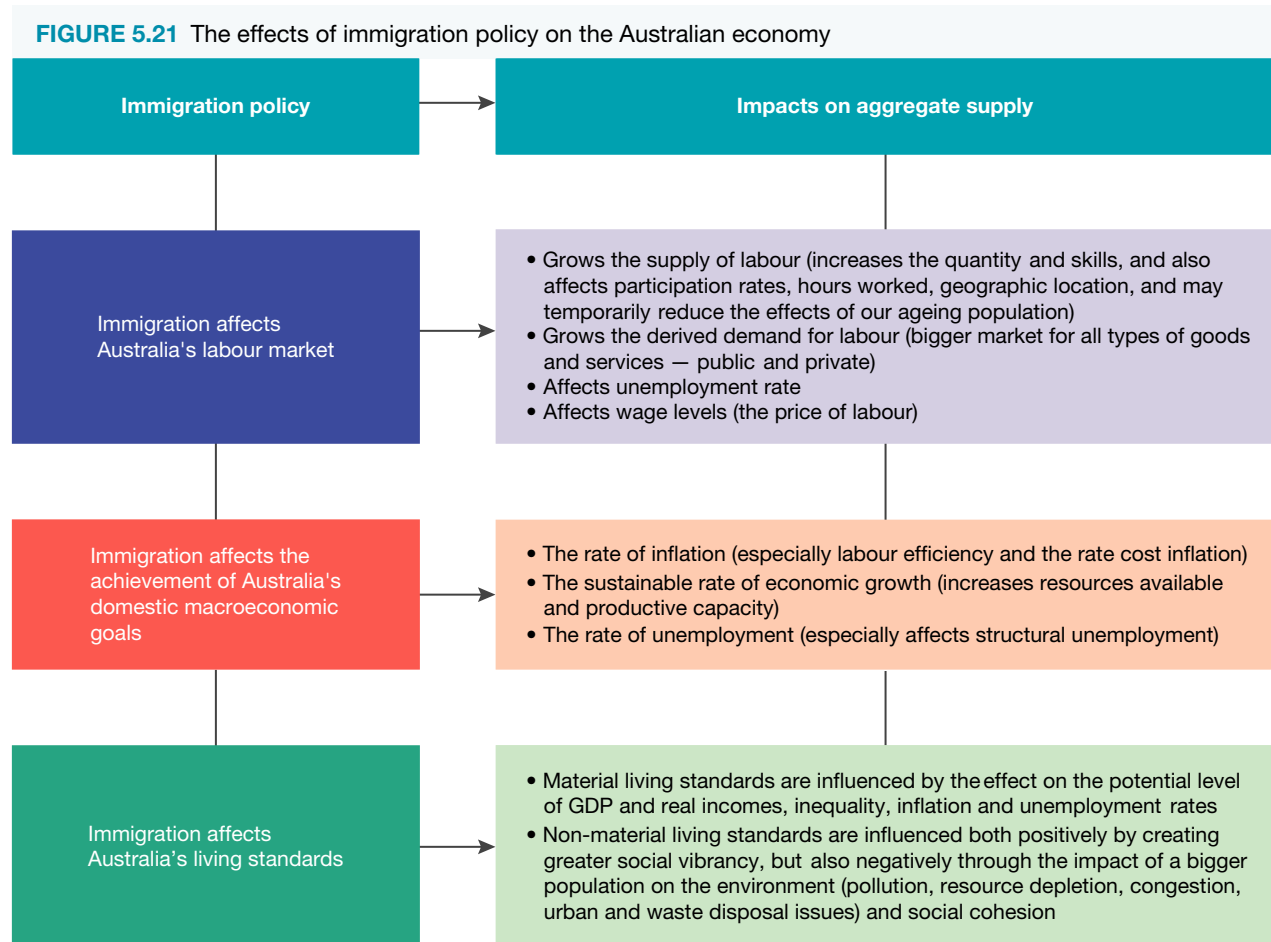
Traditionally when graphed, a country's age–sex distribution is a fairly regular-shaped pyramid with sides that slope inwards as age increases. Australia's pyramid for 1970 is more typical of this. The inward slope as we move towards the top of the graph exists because numbers decline in older age groups due to accidents, sickness and simply old age. However, irregularities do occur in the pyramid's shape due to economic, social and political events. If you compare the shape of Australia's population pyramid for 2019 or 2060 with that for 1970, you will immediately notice striking differences. The average age of Australia's population has been getting older. By 2019, the huge group of young people born in the post-World War II baby boom (1946 to 1960s), and the large intake of government-assisted migrants escaping war-devastated Europe, had all moved into older age groups. These people were marching into retirement having had fewer children themselves. Even by 2019, ageing had contributed to a top-heavy pyramid with almost parallel (and in parts, outward sloping) sides. From an economic perspective, the ageing population has created problems that have been documented in four Intergenerational Reports (latest in 2015):

- An ageing population weakens the government's *financial position* by increasing outlays on pensions and the provision of health care, yet it reduces the proportion of taxpayers, thereby cutting budget revenue and leading to future budget deficits.
- Ageing means that there will be *changes in resource allocation* favouring the types of goods and services required by older people (such as medical services and home help).
- An ageing population, where there is a smaller proportion of younger people in working age groups, slows the growth of the labour force and reduces the participation rate. It creates *labour shortages* and skills bottlenecks in some parts of the economy. These act like a brake on Australia's productive capacity, aggregate supply, the sustainable rate of economic growth and, ultimately, living standards.



5.5.3 The Australian government's recent immigration policies

With a better understanding of how Australia's economic situation has been shaped by labour shortages arising in part from our ageing population, it is now time to consider the general features of our recent immigration policy before we look at how these might affect the labour market, macroeconomic goals and living standards. Some of the areas we will examine are summarised in figure 5.21.

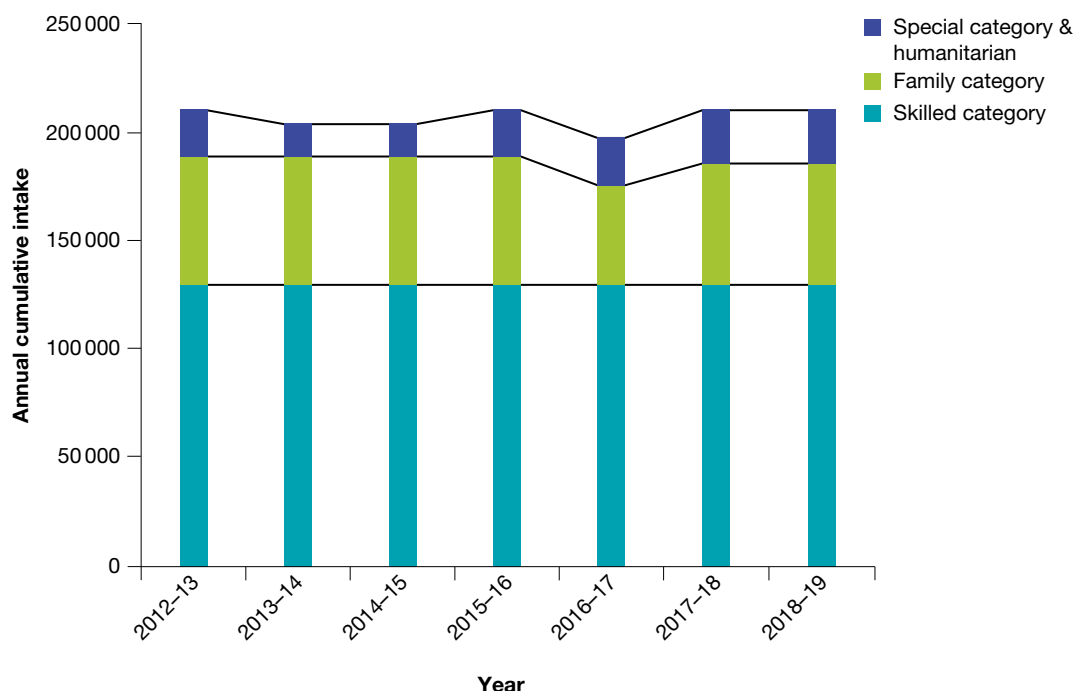


Policy sets an overall target for immigration numbers

The policy's central feature is the setting of an annual, planned *immigration target*. This places a desired limit on the number of new arrivals accepted by the Department of Immigration and Border Protection. There are also special temporary visas for students and those on TSS working visas and permanent visas where selection is made using a points-based system.

Figure 5.22 shows that the planned migrant intake in recent years has remained at a record high of around 190 000 migrants (excluding the special eligibility and humanitarian category). However, the current planned migration target for 2019–20 is expected to be reduced to 160 000 (down from 190 000) to ease urban congestion and to allow for a weaker labour market.

FIGURE 5.22 Trends in Australian planned immigration by target category, 2012–13 to 2018–19



Source: © Commonwealth of Australia 2019.

This overall target (around a planned level of 160 000 for 2019–20) along with our humanitarian intake, is broken down into *three* main categories or streams:

1. *Skilled migrant stream*. The skilled migrant stream is the main category and each year till 2018–19, had an intake of around 128 000 (almost half the population of Canberra). It represents 65 per cent of all entrants and has four subcategories:
 - *general skills migration* program, based on a points system. Points are awarded on the basis of how likely the migrant is to make the greatest economic contribution according to criteria like work experience, age and education.
 - *employer-sponsored migration* program, where employers can recommend people who have the particular skills they seek. These migrants can apply for a TSS visa and perhaps become permanent residents.
 - *distinguished talent* program, for those who have international recognition in their field of expertise.
 - *business innovation and investment* program, for those with financial backing who have previously set up successful businesses.
2. *Family migrant stream*. This enables family reunification (generally spouses, children and parents).
3. *Special and humanitarian migrant stream*. This is for refugees, including those from Syria.

Of these three streams, we will only focus on the *skilled migrant category* since this is the one that is mainly designed to affect Australia's labour market.



Policy gives priority to migrants with specific skills

Australia's immigration policy gives priority to migrants with certain *wanted skills* that are in short supply. This helps to ensure that they have a better chance of getting a job. Figure 5.22 also shows that the skilled migrant stream represents 65 per cent of the overall number of immigrants. Additionally, most of these

migrants are in younger age groups, averaging around 37 years. This youthfulness helps to maximise the potential economic benefits for the Australian economy.

Policy targets vary, depending on the economic and other conditions

Targets for the overall number and skills of migrants vary according to domestic economic conditions and other considerations like urban congestion. Targets rise in periods when economic conditions and the labour market are strong, and fall or plateau (as recently) when conditions are weaker and unemployment is higher.

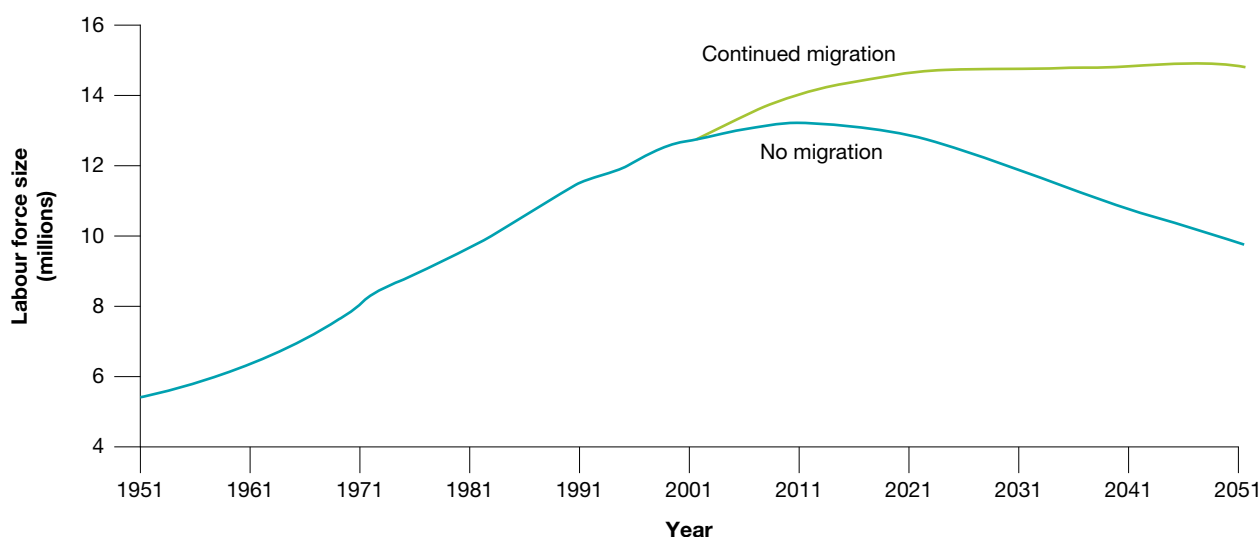
5.5.4 How recent immigration policies have affected Australia's labour market and aggregate supply

Australia's *labour market* is an institution where sellers (S) and buyers (D) of labour negotiate wages and conditions. The federal government's immigration policy has affected this market in various ways. For example, it has changed the size and growth of our labour force, the availability or supply of skilled workers, the participation rate, the hours worked, the geographic distribution of the labour force and wage rates. Understanding these impacts of immigration policy will then allow us to see how this aggregate supply policy has affected our productive capacity, key domestic macroeconomic goals and living standards.

Immigration has increased the supply of labour in the labour market

Without the Australian government's immigration policy, figure 5.23 shows that the *size* of Australia's labour force (the total supply of labour) would have started to decline from about 2011–12. This would have led to even worse **labour bottlenecks** or *shortages*, causing our productive capacity and aggregate supply to gradually decline (unless of course these restrictions were offset by strong rises in productivity).

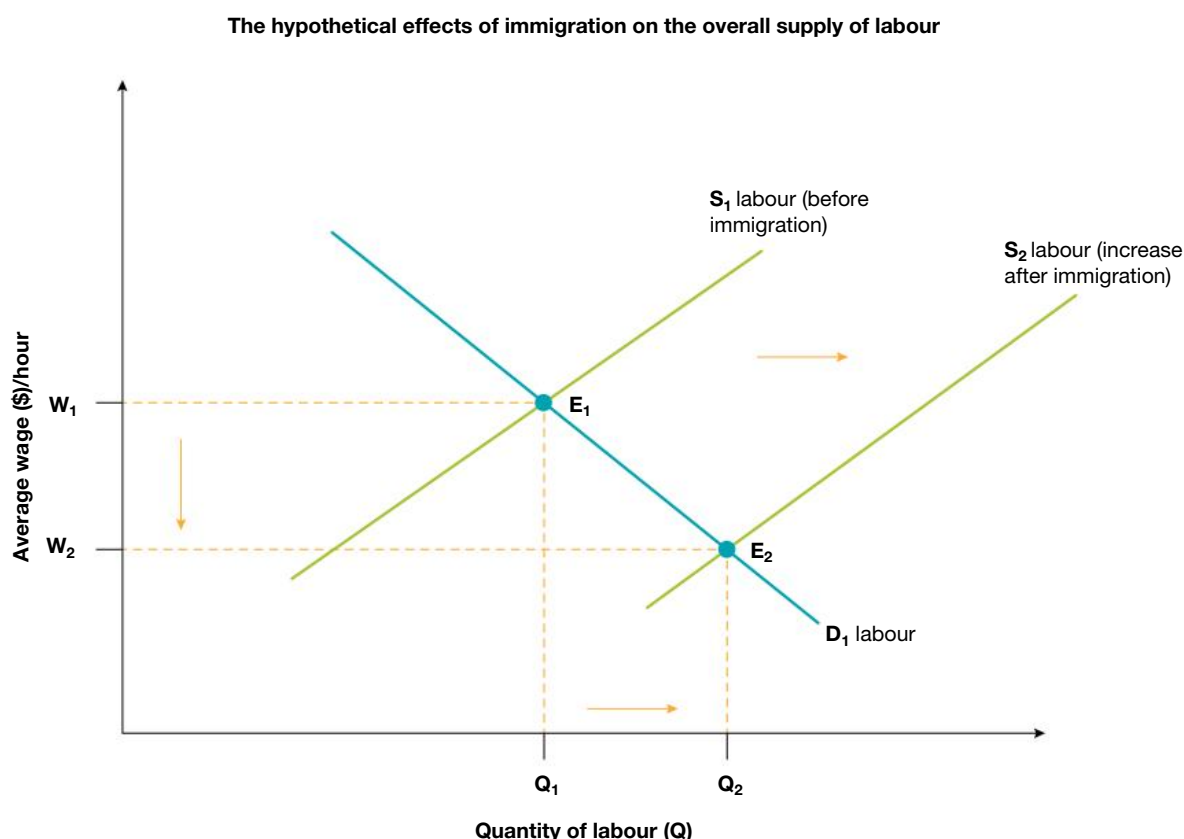
FIGURE 5.23 The actual and projected influence of immigration on Australia's labour force size (millions)



Source: © Australian Bureau of Statistics.

However, as hypothetically illustrated in figure 5.24, immigration *increases the supply of labour* and the workforce (the shift from S_1 to S_2). In itself, this would tend to hold wages or the market price of labour down (the drop from W_1 to W_2), assuming unrealistically that immigration did not increase the demand for labour by even more.

FIGURE 5.24 A demand–supply diagram showing Australia’s labour market following an increase in the supply of labour after immigration



Immigration has increased the demand for labour in the labour market

Immigration has greatly increased the total *size* of Australia’s population. With current rates of immigration, Australia’s population will rise from 26 million in 2020, to over 40 million projected by 2060. Indeed, figure 5.25 shows that in most years, immigration accounted for over 60 per cent of the overall rise in population. In turn, this increases the number of consumers (demand) of goods and services such as food and housing, as well as those things provided by the government including education, health and economic infrastructure.

Figure 5.26 hypothetically shows how immigration has increased the *demand for labour* (the shift from D_1 to D_2), perhaps in itself putting some upward pressure on wages (from W_1 to W_2), assuming that immigration did not increase the supply of labour by even more.

So overall, while immigration has increased the *supply* of workers in the labour market, it has also increased the *demand* for labour because the production of more goods and services for a bigger domestic market also requires the employment of extra labour.



FIGURE 5.25 Contribution of immigration to Australia's population growth each year

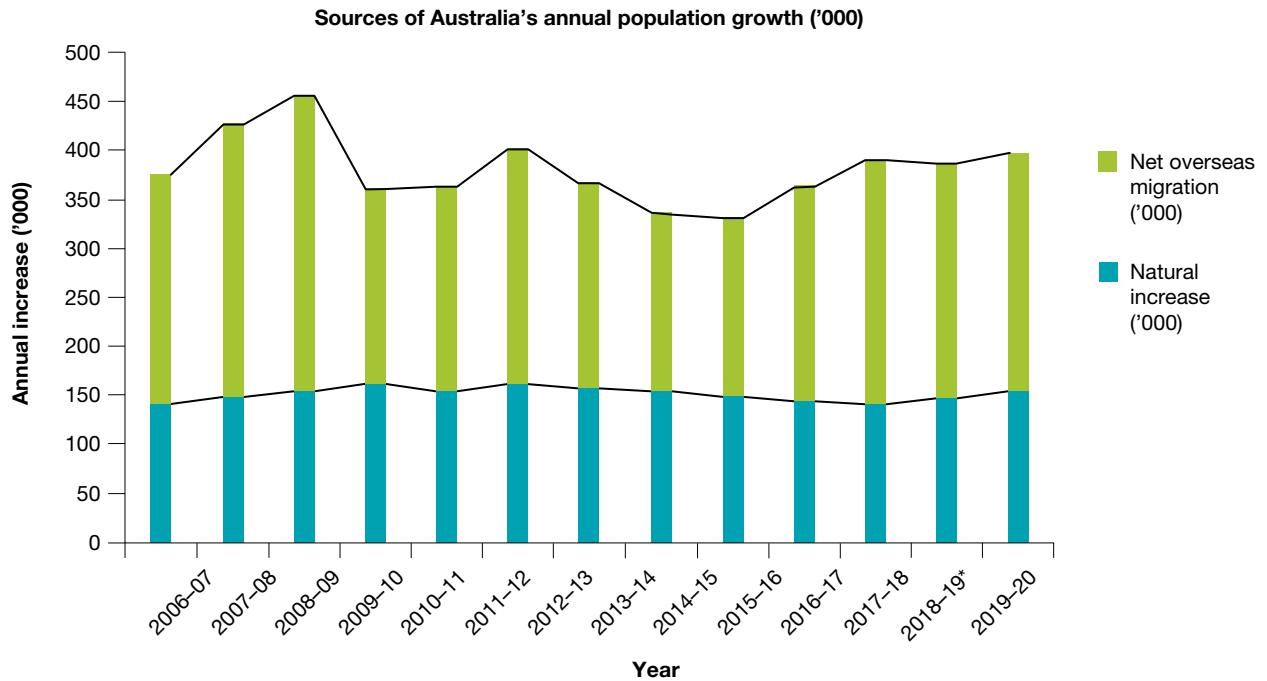
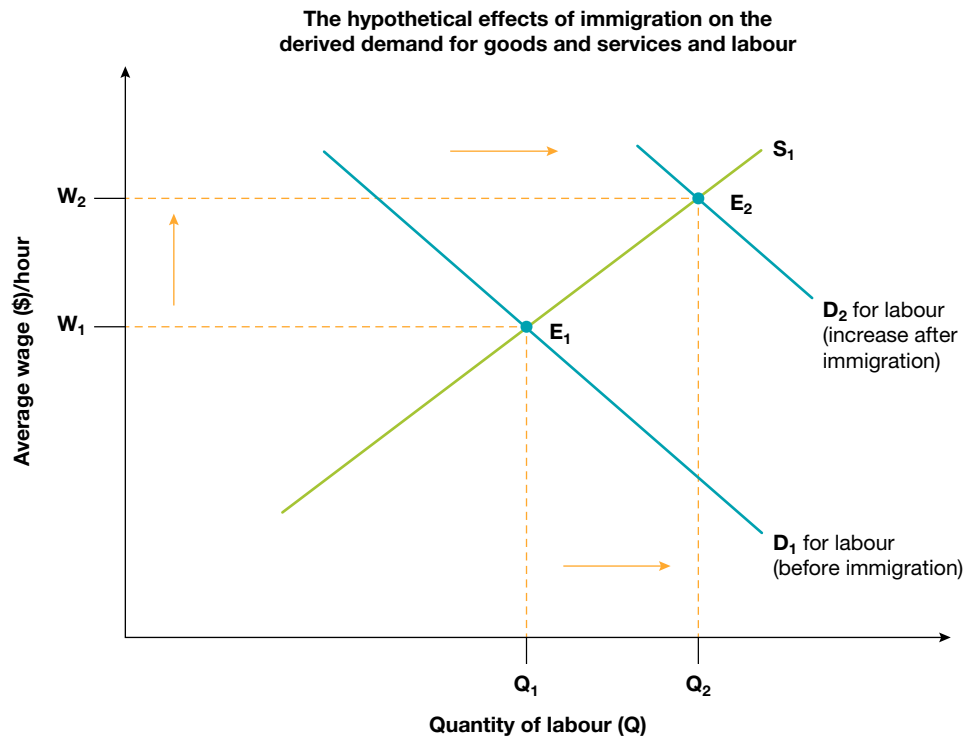


FIGURE 5.26 A demand–supply diagram showing Australia's labour market following an increase in the demand for labour after immigration



Immigration has increased the supply of skills and thus productivity in the labour market

In more recent years, Australia's immigration policy has focused on attracting *skilled migrants* with wanted talents under four categories: *general skills migration*, *employer-sponsored migration*, *distinguished talent* and *business innovation and investment*.

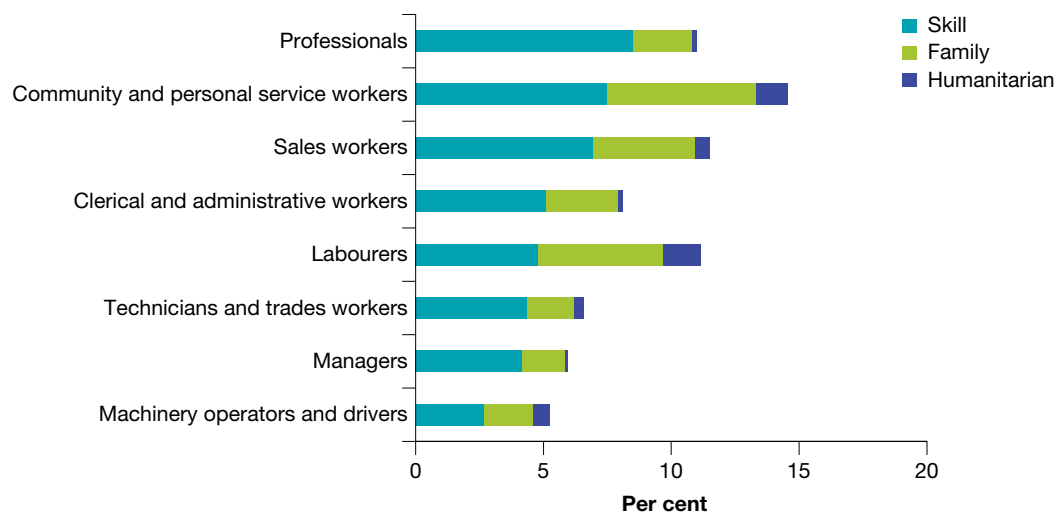
Figure 5.27 (graph 1) indicates that on average, overseas-born males and females generally have higher educational qualifications than Australian-born residents in all age groups. These skills help to strengthen *labour productivity*, grow our productive capacity and thus increase aggregate supply. In addition, figure 5.27 (graph 2) shows that immigrants contribute up to 10 per cent of all workers in some occupations, especially in areas such as professionals, community services and sales.

FIGURE 5.27 Comparisons of educational qualifications for immigrants and Australian-born individuals, along with their occupations

Graph 1 — Proportion of Australian-born and overseas-born people with a degree level or higher qualification and by age and gender



Graph 2 — Permanent immigrants as a proportion of all workers in occupations



Source: Australian Bureau of Statistics.

Immigration may have increased the average unemployment rate in the labour market

Unemployment rates are an important indicator of how the labour market is affected by Australia's immigration policies. They tell us the overall extent to which the demand for labour matches its supply. If immigration only added to the supply of labour and not also its demand, unemployment would probably rise.

One commonly held view is that immigrants do in fact take the jobs of locals and cause unemployment. According to some economists and union leaders, it is the *young Australian-born job seeker* who misses out. In addition, there have been reported cases where unscrupulous employers have used the popular 457 visa (now superseded by the TSS visa) to bring in overseas workers (even when local workers were willing and able to fill the position) and pay them lower wages. Such practices reduce job opportunities for locals and may add to unemployment among some job seekers.

However, other commentators argue that as 65 per cent of immigrants these days are skilled, and because the government usually tries to target occupations where there is a labour shortage — quickly cutting (or not increasing) targets when economic conditions are weak — our immigration policy should not add to the unemployment of Australian-born job seekers. It may actually leave more unskilled jobs for young job-seeking locals. Furthermore, immigrants also create jobs by being consumers of goods and services. Overall, the evidence of the effects of immigration on unemployment is not conclusive.

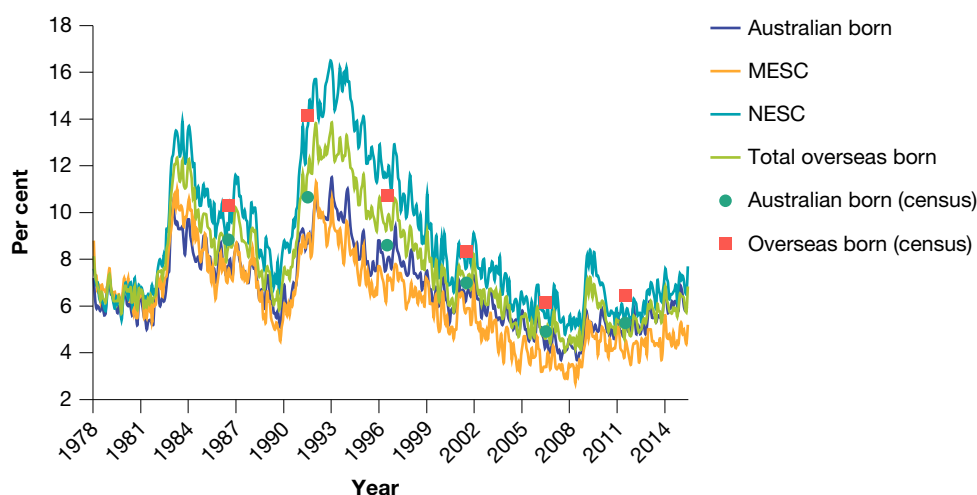
Another approach is to see whether migrants actually have lower or higher unemployment rates than individuals born in Australia. Figure 5.28 (graph 1) shows that immigrants overall *do* have a *higher unemployment rate* than those born in Australia, by 1–2 percentage points (see the blue and red markers). This was especially the case for those migrants from non-English speaking countries (NESC). However, the two graphs show that individuals from mainly English-speaking countries (MESC), and some in the 'skill' category, actually had lower unemployment rates than those born in Australia. In addition, research shows that several years after arrival, any differences fade as language skills improve.

Immigration has decreased the average age of those in the labour market

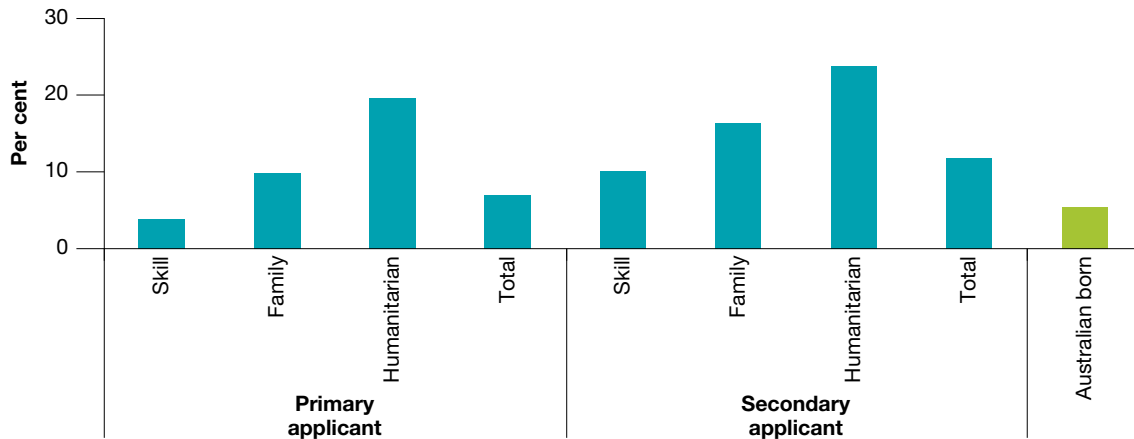
Immigration policy has helped to keep the *average age* of Australia's labour force and population younger than it would otherwise be. The two main parts making up figure 5.29 reveal that the vast majority of migrants are less than 34 years of age. This means that they are likely to supply their labour for some years to come. In the medium term, this helps to offset the effects of our ageing population which, if not addressed, would curb Australia's productive capacity and aggregate supply. However, there is a counterargument, that younger immigrants today will also grow old, possibly necessitating even higher future levels of immigration to halt our ageing population!

FIGURE 5.28 How immigration affects unemployment rates

Graph 1 — Unemployment rates for Australian-born individuals, those from mainly English speaking countries (MESC) and those from non-English speaking countries (NESC)



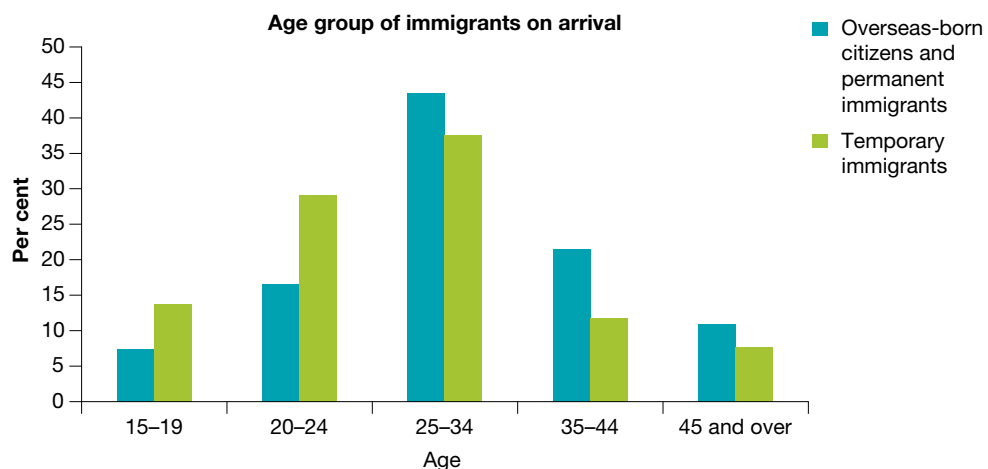
Graph 2—Comparison of unemployment rates by immigrant type



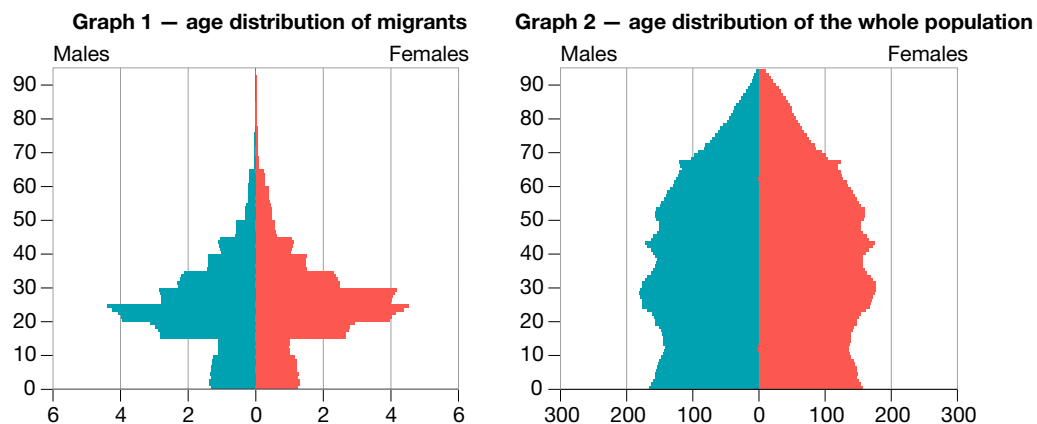
Source: Australian Bureau of Statistics.

FIGURE 5.29 How immigration has temporarily helped to depress the average age of workers in Australia's labour market

(a) Distribution of immigrants by age group



(b) The two graphs below compare the age-sex population pyramids (in '000) for immigrants (graph 1) against that for the whole Australian population (graph 2)



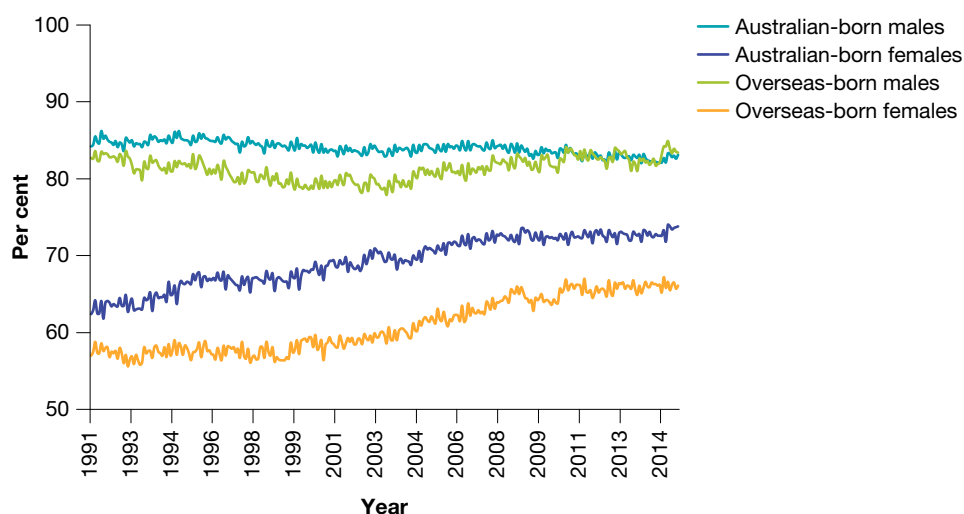
Source: Australian Bureau of Statistics

Immigration involves lower participation rates in the labour market

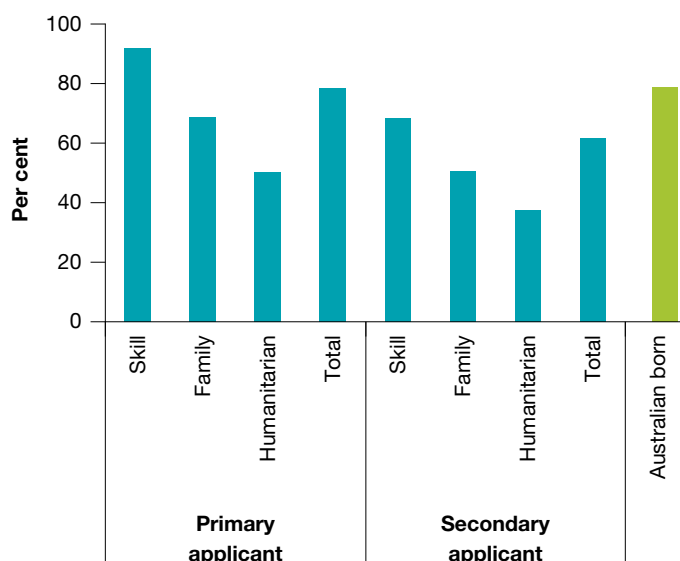
Participation rates (the proportion of those aged 15 years and over who are in the labour force) are another important indicator of labour market outcomes as a result of immigration policies. These rates reflect the impact of immigration on the supply of labour, and depend on the type of immigrant (whether they are skilled, humanitarian or family). Although immigrants overall have a *lower labour force participation rate* than individuals born in Australia, especially in the short term, the gap for males has been decreasing and the rate is now about the same as that for the locals (especially those who have been here for several years). In addition, *skilled* immigrants actually have a higher participation rate than those born in Australia. However, *female* immigrants still have a considerably lower participation rate than Australian-born women. This limits some of immigration's beneficial impacts on the labour market and reduces the social integration of migrants through work. Many of these observations are supported by figure 5.30.

FIGURE 5.30 Comparisons of labour force participation rates for overseas and Australian-born individuals

Graph 1 — Comparisons of labour force participation rates for overseas and Australian-born individuals



Graph 2 — Comparisons of participation rates in the labour force by immigrant category



Source: Australian Bureau of Statistics.

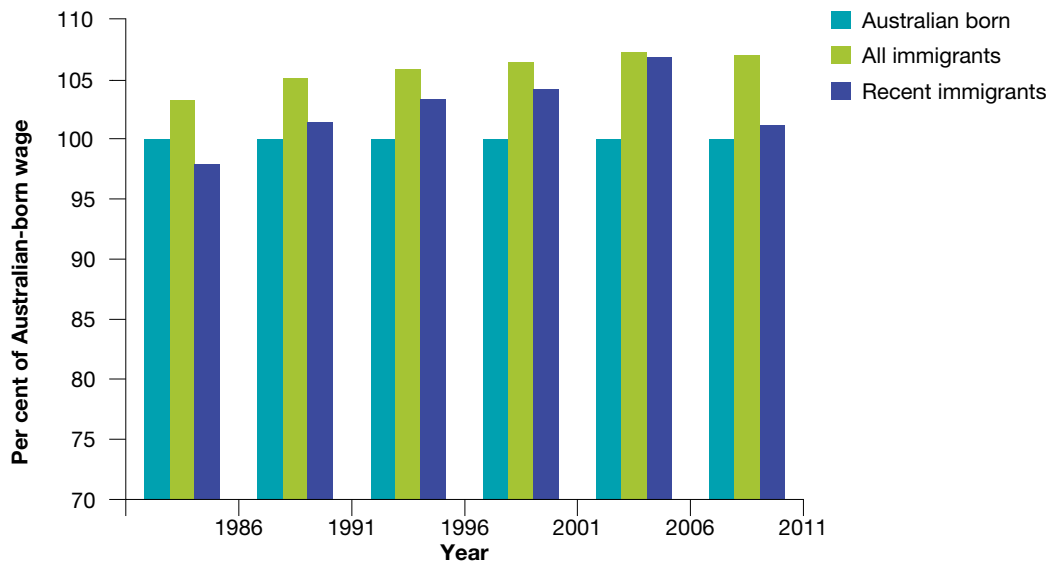
Immigration affects wages in the labour market

Wages are the price of labour and are influenced by market conditions of demand and supply. As already mentioned, immigration policy has directly increased the supply of labour by growing the labour force. However, it has also increased the derived demand for labour since immigrants are also consumers of goods and services, the making of which requires the purchase of extra labour resources. With these ideas in mind, normally we would expect that immigration policy would have some effect on wage rates and incomes. Whether wages generally go up or down at the macro level would be partly determined by whether immigration raises the supply of labour by more or less than it increases its demand (after taking account of wages, participation rates and skill levels). The overall impact here is not all that clear.

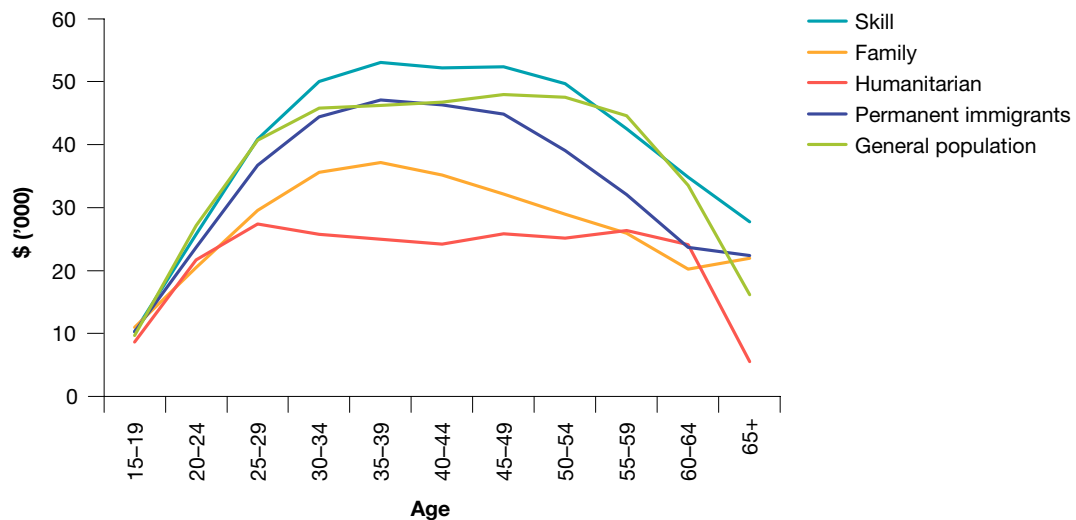
However, what the research data shown in figure 5.31 (graph 1) do suggest is that, surprisingly, immigrants actually receive *higher wages* on average than workers born in Australia. This may reflect the fact that overall, they have higher skills and educational qualifications, and often work longer hours. However, it is also clear that recent ‘family’ and ‘humanitarian’ classes of immigrants usually earn *lower incomes*, especially between the ages of 25 and 60.

FIGURE 5.31 The effects of immigration on wages and incomes

Graph 1 — Comparisons of immigrant wage levels with those individuals born in Australia



Graph 2—Average income level of immigrant by age group



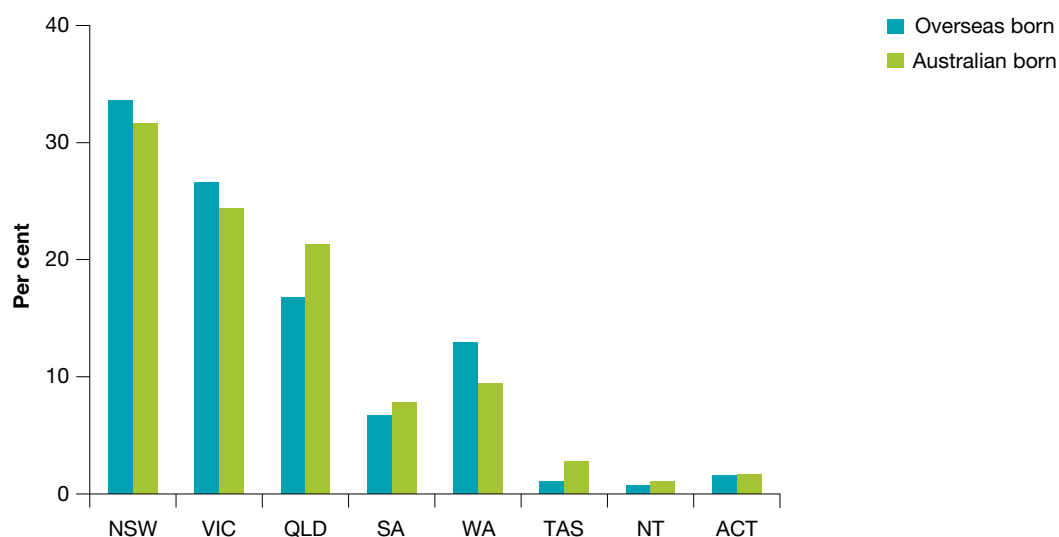
Source: Australian Bureau of Statistics.

Immigration has affected the geographic distribution of the labour force

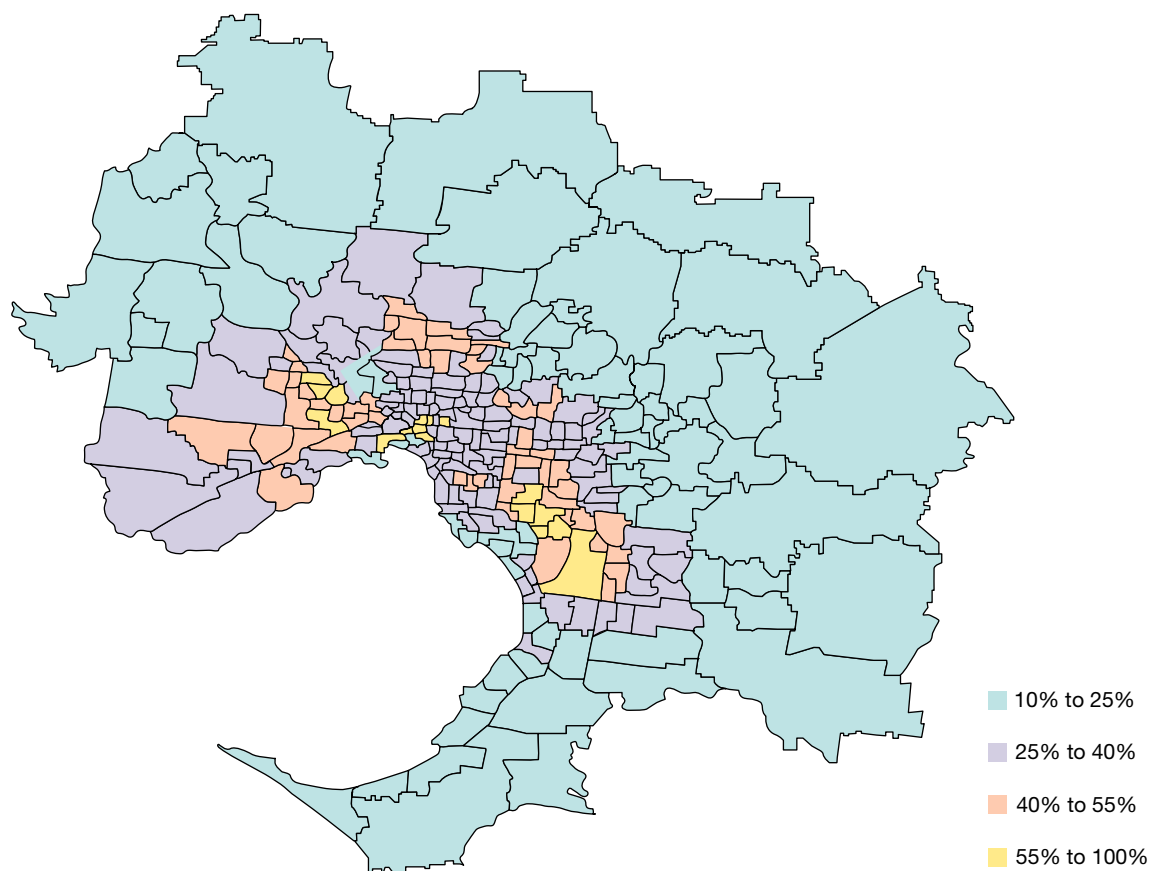
Immigrants are not spread evenly across Australia's labour market. Figure 5.32 (graph 1) indicates that most live in NSW, Victoria, Queensland and Western Australia, while figure 5.32 (graph 2) shows that those settling in Melbourne are concentrated in the inner-city areas.

FIGURE 5.32 The geographic distribution of immigrants across different states and in Melbourne

Graph 1 — The distribution of immigrants and Australian-born individuals by Australian state



Graph 2 — The distribution of immigrants in the Melbourne region



Source: Australian Bureau of Statistics.

Barriers to successful labour market outcomes

While our immigration policy has helped most immigrants find reasonable success in the labour market, this is not the experience of all. There are several obstacles:

- *Language.* Those with stronger English language skills have far better outcomes in the labour market, with lower unemployment and higher participation rates.
- *Recognition of overseas qualifications.* Some immigrants find that their overseas qualifications are not recognised in Australia, preventing them from being employed in an appropriate job and forcing them into lower paid work for which they are overqualified.
- *Prejudice.* Some feel there is prejudice when they apply for jobs, leading to unemployment or lower pay.

5.5.5 How does government immigration policy affect domestic macroeconomic goals and living standards?

We have now seen how immigration, as an aggregate supply policy, has affected various aspects of Australia's labour market. It has particularly increased the size and skills of our labour force, expanding our productive capacity and increasing aggregate supply. The next step is to look at how the policy has affected Australia's key domestic macroeconomic goals and living standards.

Immigration policy has increased aggregate supply and perhaps the sustainable rate of economic growth

There are a number of ways in which immigration has *boosted* Australia's productive capacity, aggregate supply and the potential or sustainable rate of GDP:

- Immigration has helped to offset the negative effects on the size of the labour force caused by our ageing population. Having access to more labour resources potentially allows the economy to get bigger.
- Immigration has significantly increased the supply of skilled labour and filled bottlenecks that would otherwise limit our productive capacity and sustainable rate of economic growth. In addition, skilled labour is generally more efficient than unskilled labour, adding to labour productivity and economic growth.
- Immigration has grown the overall size of the population, increased the number of consumers and the demand for labour, and has helped some local firms gain greater efficiency through economies of large-scale production.

These potential effects of immigration, as an aggregate supply policy, on Australia's rate of economic growth can be seen in figure 5.19 in section 5.5.1. By increasing productive capacity and aggregate supply (the move from AS_1 to AS_2), there is a rise in national production (the move from GDP_1 to GDP_2) with lower inflation (the fall from P_1 to P_2).

However, although immigration can help to grow the overall size of the economy and real incomes per head, some economists have drawn attention to its effects on Australia's environment and the impact that more rapid population growth has on water, land for housing, non-renewable natural resources, urban congestion, waste disposal and greenhouse gas emissions. These highly *adverse environmental impacts* could reduce our non-material living standards and ultimately make GDP growth less sustainable.

Immigration policy has helped boost aggregate supply and possibly slow inflation

At the macro level, whether immigration lessens or worsens inflation depends on its effect on the level of aggregate demand versus the effect on aggregate supply, along with the time period considered. In some ways, immigration might slow cost inflation in the long term:

- Immigration increases the supply of workers by adding to the size and skill of the labour force, perhaps offsetting the effects of ageing and reducing bottlenecks. As a result, immigration (especially of skilled workers) may tend to slow wage rises, possibly by 20 per cent for the projected period 2014–60. This reduces cost inflation pressures.

- For those Australian firms that mainly sell locally, the small size of the local market (over 25 million people in 2019) places them at a cost disadvantage. In this respect, immigration has quickly grown the size of the market for goods and services. This allows local firms to produce on a bigger, more efficient scale with larger production runs. Business average costs (such as product development, machinery and advertising) can be spread more thinly over higher output. This allows greater economies of large-scale production, with lower costs and cheaper consumer prices.

However, it is also possible that immigration could contribute to inflationary pressures in some key areas by adding to the demand for resources, goods and services more than it adds to their supply. Here, for example, we might think of the considerable impact that immigration has had in pushing up property prices in our major cities and significantly reducing housing affordability for other Australians. In addition, immigration probably contributed to the rising cost of utilities (electricity, gas and water).

Immigration policy has increased aggregate supply and had mixed effects on unemployment

Immigration can both add to and reduce Australia's unemployment rate, depending on the category of immigrant, the time period considered and whether we are looking at the aggregate supply effects or the aggregate demand impacts of the policy:

- On the one hand, immigrants help to grow *aggregate supply* by increasing the size and skills of our labour force. As a result, one might be tempted to conclude that they *increase* our unemployment rate. Indeed, there is some evidence of this, particularly among those who have only recently arrived and whose English language and vocational skills are limited. However, the unemployment rate falls with time. Moreover, while migrants from some non-English speaking countries (especially women) are indeed more likely than the locally born to be unemployed in the short run or not participate in work, unemployment rates for those from English speaking countries can actually be lower than for those born in Australia.
- On the other hand, immigration policy may have indirectly helped to *reduce* our unemployment rate. This is because migrants also become consumers of goods and services (food, housing, holidays, transport and medicine), adding to *aggregate demand*, economic activity and the derived demand for labour. This would tend to reduce Australia's level of cyclical unemployment. Additionally, by easing skills shortages, immigration allows the economy to grow faster, generating more jobs and reducing unemployment in the long term.

Immigration has mixed effects on living standards

Australia's immigration policy and its impacts on the labour market have mixed effects on our material and non-material living standards.

- *Material living standards* (indicated by average real GDP, incomes or consumption per head) have been increased through the effects of immigration on labour skills and productivity. However, the impact appears to be quite small. Recent modelling by the Productivity Commission in its 2016 report estimated that if there is ongoing immigration between 2014 and 2060, this would cause Australia's real GDP per capita to be only 5 per cent higher (only \$5100 per person) than having zero net migration. In addition, by increasing the number of skilled and younger working taxpayers, government revenue may rise a little, relative to its expenses, strengthening the position of the budget and helping to offset the damaging effects of population ageing. In turn, this can make the government's provision of welfare and services more affordable and sustainable, strengthening material living standards. However, the newly arrived, the less skilled family and humanitarian groups of immigrants and those from non-English speaking countries, often suffer relatively low real incomes and living standards. In addition, property ownership has become less affordable for many.
- The effects of immigration on *non-material living standards* are even harder to measure and more uncertain. On the one hand, immigration has made for a far more vibrant, tolerant, rich and interesting multicultural society.

On the other hand, measures of *social cohesion* have shown a recent decline with some groups feeling alienated, unwanted and unhappy. In addition, there is little doubt that immigration has significantly added to traffic congestion, and hence a reduction in leisure time available for families. Furthermore, those migrant groups that become unemployed have poorer health and happiness outcomes, while some see a potential connection with crime rates and resource depletion. Although immigration is embraced by most Australians, it seems that a significant proportion feel that immigration should be lower to help protect our non-material living standards.

Weaknesses of immigration policy

As indicated already, immigration policy as an aggregate supply policy instrument has grown the size, skills and productivity of the labour force, allowing the economy's size to expand. However, debate exists about the nature and magnitude of the benefits when the policy is used to promote domestic macroeconomic goals and improve living standards:

- Immigration usually makes those arriving better off materially, but some recent research by the Productivity Commission suggests that it does little for those already here in Australia. For instance, in the next few decades, immigration is projected to raise average material living standards by just 5 per cent (indicated by the real increase in GDP or incomes per head), and it leads to higher unemployment rates and lower participation for some groups. In addition, it erodes housing affordability for ordinary families. Some would say that the economic case for immigration is surprisingly weak.
- Unless immigration rates keep on rising to dramatically swell the growth in our population, some critics say that it is nonsense to argue that high levels of immigration can provide a permanent solution to the problems caused by Australia's ageing population. Immigrants also get old!
- Immigration undermines some aspects of non-material living standards. For instance, it accelerates our environmental problems and resource depletion, adds to Australia's greenhouse gas emissions, weakens social cohesion (especially for those who have poor labour market outcomes), worsens traffic congestion and overcrowding, and reduces the amount of leisure time left to spend with families.
- Immigration is likely to add to unemployment, especially among our young people. Unions and some others believe migrants take jobs from locals, especially with the large number of arrivals on TSS visas, a system that is sometimes abused. In addition, it may discourage locals from investing in higher skills since these jobs are sometimes taken by immigrants. Furthermore, some streams of immigrants (family and humanitarian and women) have higher unemployment rates and poorer labour market and integration outcomes.
- Currently, some of the potential productivity gains are not realised due to our failure to adequately recognise overseas education and training qualifications. This causes some immigrant workers to be overqualified for their jobs.
- Income remittances abroad by immigrants back to their home country slows their addition to domestic demand, and there is a higher propensity to import goods and services.
- Immigration policy may worsen the problem of the 'brain drain'. Indeed, over 30 000 qualified individuals a year leave Australia in search of better employment opportunities and higher incomes. In addition, our immigration policy often drains lower income countries of talented individuals who could have made a huge economic contribution in their home country.
- As noted by the Productivity Commission in its 2016 final report, immigration policy could be made more effective if it was based on better research data that analysed its economic, social and environmental impacts.



Resources



Weblink How immigration can help the economy

5.5 ACTIVITIES

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Check your understanding

1. What does Australia's immigration policy involve?
2. What are the effects of immigration policy on the labour market, domestic macroeconomic goals and living standards?

Applied economic exercises

1. This question is about aspects of *immigration policy* as an aggregate supply policy measure that is especially designed to affect the labour market.
 - (a) Australia's immigration policy target for 2018–19 was set at 190 000 people. This policy has especially sought to influence our *labour market*. Table 5.7 highlights some of the impacts by comparing features of immigrants against those born in Australia. Referring to table 5.7 and other information, outline some of the ways whereby immigration has affected Australia's labour market conditions. **(3 marks)**

TABLE 5.7 Immigration and Australia's labour market

Indicator	Units	Immigrants	Australian born
Proportion of working age	%	94.1	76.4
Labour force participation rate	%	60.7	61.0
Unemployment rate	%	6.4	5.3
Hours per worker	hrs/week	34.5	34.3
Hours worked per person*	hrs/week	18.5	15.2

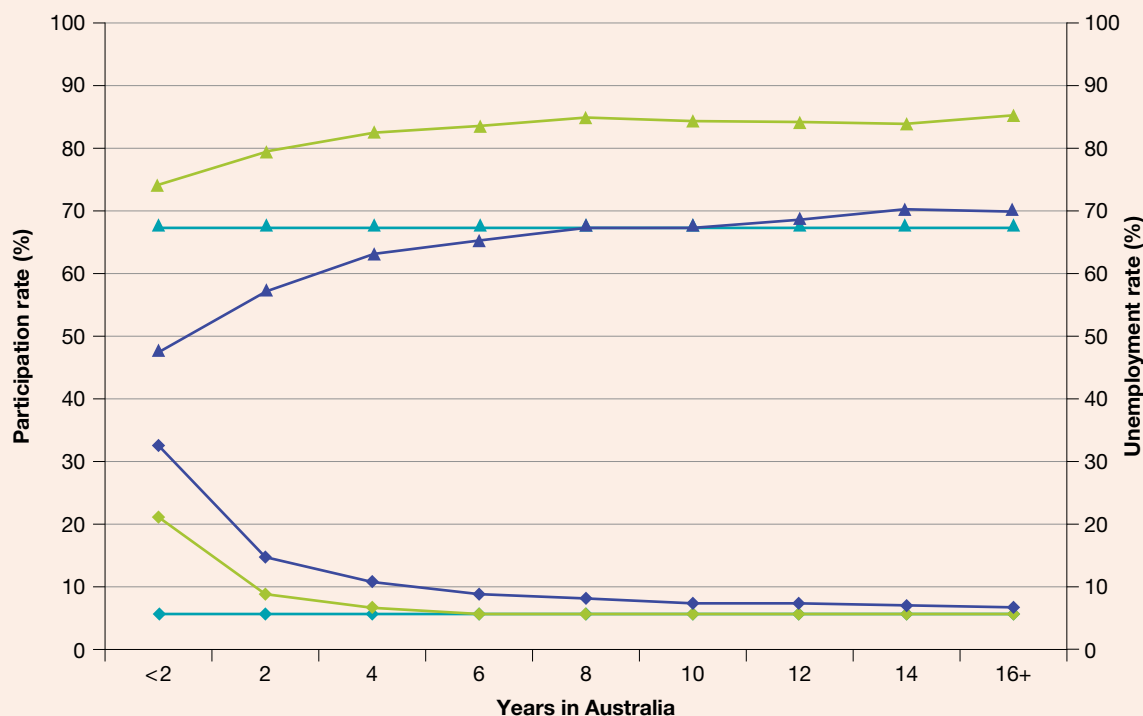
* Persons aged 15 years and over

Source: © Commonwealth of Australia.

- (b) In what ways is the Australian government's immigration policy regarded as an important aggregate supply policy that helps to boost Australia's productive capacity and sustainable rate of economic growth? Use a fully labelled AD–AS diagram to show hypothetically the *before* and *after* effects of increased immigration on the economy. **(5 marks)**
- (c) Discuss how you would expect the impact of Australia's immigration policy to affect each of the following:
 - i. the size of the labour force
 - ii. labour productivity
 - iii. the participation rate
 - iv. the unemployment rate
 - v. the demand for labour
 - vi. the inflation rate
 - vii. non-material living standards.**(14 marks)**
- (d) In 2015, the federal government's last intergenerational report was released. One of the challenges identified was that presented by an *ageing population*.
 - i. What is meant by an *ageing population*? **(2 marks)**
 - ii. Identify and outline *two* important economic problems that might be caused by Australia's ageing population. **(4 marks)**
 - iii. Discuss how *immigration policies* might be used to help reduce the impact of an ageing Australian population. **(3 marks)**

2. Examine figure 5.33 showing the effects of immigration on Australia's unemployment and participation rates after increasing years spent living in Australia.

FIGURE 5.33 Comparing the changing rates of unemployment and participation of immigrants living in Australia for different periods of time



Source data: ABS, Australian Census and Migrants Integrated Dataset, 2016.

- ◆— Unemployment rate (Australian-born)
- ◆— Unemployment rate (Skill stream)
- ◆— Unemployment rate (Family stream)
- ▲— Participation rate (Australian-born)
- ▲— Participation rate (Skill stream)
- ▲— Participation rate (Family stream)

Source: © Commonwealth of Australia 2019.

- (a) Referring to the data in figure 5.33, describe the unemployment rates for Australian-born workers and overseas-born skilled and family streams of migrants. **(2 marks)**
- (b) Referring to the data in figure 5.33, describe the participation rates for Australian-born workers and overseas-born skilled and family streams of migrants. **(2 marks)**
- (c) Why do differences between Australian-born and overseas-born individuals tend to decrease over time? **(2 marks)**
3. Explain two aggregate supply effects of decreasing the planned immigration target from 190 000 to 160 000 as announced in 2019. **(4 marks)**
4. Outline one important strength and one important weakness of using immigration policy to help promote strong and sustainable economic growth. **(4 marks)**

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5.6 Strengths and weaknesses of using aggregate supply policies to achieve the Australian government's domestic macroeconomic goals and better living standards

KEY CONCEPT

- the strengths and weaknesses of using aggregate supply policies to achieve the Australian government's domestic macroeconomic goals and how these goals may affect living standards

Aggregate supply policies have a number of strengths and weaknesses when they are used to help promote domestic macroeconomic goals and better living standards.

5.6.1 The strengths of using aggregate supply policies to pursue domestic macroeconomic goals and improve living standards

A few of the *strengths* of aggregate supply policies used to help pursue domestic macroeconomic goals and improve living standards are summarised in table 5.8.

TABLE 5.8 Some strengths of using aggregate supply policies to promote domestic macroeconomic goals and living standards

Possible strength	Description of strength
Aggregate supply policies can help to solve structural problems that aggregate demand policies can't fix	A great strength of aggregate supply policies is that they can be used to deal with ongoing structural problems that can prevent the achievement of domestic macroeconomic goals: • Using supply-side measures to increase efficiency in the use of resources can help to slow cost inflation. • They can also help to make producers more willing and able to lift national output, thereby growing the economy's productive capacity and the sustainable rate of economic growth. • In the long term, by assisting producers to be more efficient and internationally competitive, and by keeping production costs down and profits up, aggregate supply policies can encourage new firms to start up, or existing firms to expand or avoid closure, thereby helping to lower structural unemployment. • By contrast, most aggregate demand policies cannot directly address these structural problems.
Aggregate supply policies work in a complementary way with aggregate demand policies	Aggregate supply policies can work in a complementary or supportive way with aggregate demand policies. • Aggregate supply policies can help to reduce long-term structural problems that can reduce the achievement of key domestic macroeconomic goals, while macroeconomic or aggregate demand policies can be used to help stabilise the level of spending and domestic economic activity in the shorter term. Together these policies can help create domestic conditions that maximise living standards. • Additionally, while aggregate demand policies are needed to steady the growth in expenditure, aggregate supply policies are required to ensure that society's growing wants can actually be met by growing our productive capacity and potential GDP.

(continued)

TABLE 5.8 Some strengths of using aggregate supply policies to promote domestic macroeconomic goals and living standards (*continued*)

Possible strength	Description of strength
Aggregate supply policies sometimes face fewer conflicts or trade-offs when used to pursue government economic goals	Aggregate supply policies generally face fewer dilemmas or conflicts between the pursuit of economic goals than aggregate demand policies. For instance, in the long term, aggregate supply policies can slow inflation without slowing economic growth or causing a rise in unemployment. In reverse, aggregate supply policies can boost the sustainable rate of economic and employment growth, without adding to inflationary pressures. This makes them very attractive.
Aggregate supply policies can also have beneficial aggregate demand side effects	Some policies (such as government outlays on infrastructure investment, education and the payment of subsidies) to boost productive capacity and grow aggregate supply can simultaneously strengthen the level of aggregate demand. This can be handy if the level of domestic economic activity is weak.

5.6.2 The weaknesses of using aggregate supply policies to pursue domestic macroeconomic goals and improved living standards

Table 5.9 summarises the main *weaknesses* of using aggregate supply policies to pursue Australia's macroeconomic goals and improve living standards.

TABLE 5.9 Some weaknesses of using aggregate supply policies

Possible weakness	Description of weakness
Long 'implementation' and 'impact' time lags reduce their usefulness in the short term	As we know, there can be long time lags with recognition, implementation and impact of many government policies. This can reduce the effectiveness of these measures, especially in the short term. Unfortunately, many aggregate supply policies such as infrastructure, labour market reforms and immigration take some time to <i>implement</i> and their <i>impact</i> won't be immediately felt. Changes in spending on education, for instance, may take 10–15 years to impact on productivity, and major infrastructure projects such as the NBN have so far taken nine years to roll out and there is still some time to go. This means that they are of little use in reducing economic instability in the short term.
On its own, the increase in productive capacity as a result of aggregate supply policies is not enough	Aggregate supply policies can increase productive capacity and the potential for a bigger GDP. However, on their own, this does not guarantee that national production and jobs will actually increase unless they are also matched by an increase in spending or aggregate demand.
Some of the assumptions behind the operation of aggregate supply policies may not apply in practice	For example, supply-siders assume that taking a stick to the unemployed through tougher welfare access will get more people into work because they are <i>voluntarily</i> unemployed (rather than <i>involuntarily</i> unemployed). Clearly this may not be correct. Additionally, supply-siders recommend lower tax rates to <i>motivate</i> hard work and increase the incentive to invest and grow businesses. However, this assumption may be false. For some, lower tax rates allow individuals to reduce their hours of work and devote more time to leisure, yet still keep the same income. Additionally, lower taxes also limit government outlays on public services (like education and health) and welfare, slowing AD and living standards.
Aggregate supply policies often face political constraints	Recent Australian governments have found that their lack of a majority in the upper house or Senate blocks the passing of legislation needed for some reforms including welfare, tax, education and those involving the labour market. As a partial result of this political constraints , the pace of reform has slowed in recent years, with potentially adverse effects on economic growth and living standards.

Conflict with some government goals in the short term	Some aggregate supply policies can create conflicts with other government goals in the short term. For instance, using labour market reforms might lead to structural unemployment, especially in the short term, and undermine the government's goal of equity in income distribution. Similarly, welfare reforms designed to tighten access and increase participation rates in the labour force might increase unemployment if the jobs are not there to be had. This could also undermine equity and living standards.
Some aggregate supply policies are likely to undermine aspects of non-material living standards	Aggregate supply policies that allow for a faster, economically sustainable rate of GDP growth may undermine non-material living standards. For instance, immigration may worsen environmental damage and resource depletion, and possibly weaken social cohesion. Labour market reforms may lead to less protection of conditions and longer hours of work.
Financial constraints limit some aggregate supply policies	Most aggregate supply policies involve heavy budget outlays and are expensive to implement. When governments have run many budget deficits (as seen recently) and debt has accumulated, financial constraints may slow their introduction and reduce their benefits. Here we think of the possible reduction in government revenue if tax rates are cut to increase work and investment incentives. Similarly, the government has a limited financial capacity to increase its spending on infrastructure, education and skills, subsidies and R&D grants.

on Resources



Weblinks Supply-side economics

The napkin sketch that introduced supply-side economics

5.6 ACTIVITIES

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Check your understanding

1. What are the main *strengths* of using aggregate supply policies to achieve the government's key domestic macroeconomic goals and improve living standards?
2. What are the main *weaknesses* of using aggregate supply policies to pursue the government's key domestic macroeconomic goals and improve living standards?

Applied economic exercises

1. This question is about the general *strengths* and *weaknesses* of *aggregate supply policies* to affect key domestic macroeconomic goals and living standards.
 - (a) Aggregate supply policies can succeed where aggregate demand policies would fail. Discuss. **(4 marks)**
 - (b) Apart from the ideas raised in part (a) above, identify and outline two other general strengths and two other general weaknesses of using aggregate supply policies to promote strong and sustainable economic growth. **(4 marks)**
 - (c) Select *one* aggregate supply budgetary policy from *either* immigration policy *or* tax and welfare reforms. Discuss the strengths and weaknesses of using this aggregate supply policy to accelerate Australia's non-inflationary rate of economic growth. **(6 marks)**

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5.7 Review

5.7.1 Summary

What are aggregate supply policies?

- *Aggregate supply policies* are government strategies that seek to create more favourable aggregate supply-side conditions where businesses will thrive and want to expand, and the economy's productive capacity increases, often as a result of improved efficiency.
- Aggregate supply policies include the following three categories of measure:
 - selected aggregate supply aspects of budgetary policy
 - welfare and tax reforms
 - immigration policies to affect the labour market.
- These policies can help to grow productive capacity (shift the AS line outwards) in the long term by increasing efficiency, strengthening incentives, lowering production costs, raising profits and improving the volume and efficiency of labour and other resources.

The aims of aggregate supply policies

- The key aim of aggregate supply policies is to increase productive capacity (AS) through greater *allocative, technical, dynamic* and *intertemporal* efficiency.
- In turn, aggregate supply measures and improved efficiency are the means to achieving other key government domestic macroeconomic goals including the following:
 - boosting the long-term sustainable rate of economic growth through increased efficiency
 - promoting *low inflation* by cutting production costs
 - promoting *full employment* through better efficiency and competitiveness.
- By better achieving these goals, governments hope to lift Australian *living standards*.

Using supply-side aspects of budgetary policy to promote government's domestic macroeconomic goals and living standards

- Aggregate supply aspects of budgetary policy often include measures involving changes to budget receipts and outlays designed to boost efficiency and productive capacity, and grow AS.
- Selected aggregate supply budgetary policies for the new VCE course include:
 - increased *spending on education and training* (to improve the skills and productivity of our labour resources and reduce labour bottlenecks)
 - *investment in national infrastructure* projects (to grow capital resources, reduce bottlenecks in production, increase productive capacity and create a climate where firms can expand)
 - *grants for R&D* (to increase our technical and dynamic efficiency, competitiveness and productive capacity).
- These aggregate supply budgetary policies can help to:
 - slow *cost inflation*. Policies can potentially reduce production costs and improve business after-tax profits (e.g. through outlays on education, R&D, subsidies and infrastructure projects) through better efficiency. In turn, this encourages greater investment in new, more efficient technology and equipment, and infrastructure spending that reduces supply bottlenecks. These measures can help slow cost inflation and improve our international competitiveness.
 - strengthen the *sustainable rate of economic growth*. This may be done by using well-targeted subsidies to encourage business expansion, reduce market failure and improve our international competitiveness. In addition, improving access to skilled labour and better infrastructure are powerful ways to help grow efficiency and hence Australia's productive capacity and potential GDP.
 - reduce *natural unemployment* in the long term. This involves using policies like outlays on targeted industry subsidies, and education and training. The latter for example allows individuals to become more employable so they can better fill job vacancies in new industries. In addition, investment in infrastructure can reduce production costs, lift our international competitiveness, strengthen profits, reduce business closures and encourage expansion, lowering unemployment in the long term.

- promote better *living standards* in the long term. By increasing efficiency and lowering costs, the economy's productive capacity is boosted. This can lead to higher real per capita incomes, purchasing power, consumption, and material and possibly non-material living standards.
- Aggregate supply aspects of budgetary policy can have *weaknesses*:
 - Despite high levels of investment in infrastructure, these projects have not always been well managed by governments, and returns are more limited than might be expected.
 - Opportunity costs exist and, on occasions, greater value may have been extracted through outlays on alternatives to those selected by the government.
 - There are currently severe financial constraints due to large structural budget deficits in recent years.
 - There are usually long time lags for implementation and impact of policies like infrastructure investment, R&D grants, and spending on education and training.
 - There are often political constraints where approval through the upper house is not possible, along with a fear of adverse voter reactions.

How welfare and tax reforms can be used to promote government's domestic macroeconomic goals and living standards

- Welfare includes government cash payments to the neediest individuals in society. Welfare reforms have often focused on encouraging individuals to accept personal responsibility for their financial situation, while providing a safety net for those who are unable to make an economic contribution. The welfare system also needs to be financially sustainable in the long term.
- Tax revenue is needed by the government to provide adequate public goods and services. Tax reforms have often involved changes to the tax mix, tax base and tax burden, and sought to promote equity, simplicity and especially greater efficiency. Lowering the tax rate or burden can help to increase financial incentives for individuals and companies to work hard and expand operations, lifting efficiency and reducing cost inflation, growing productive capacity and the sustainable rate of economic growth, improving our competitiveness and creating more jobs.
- Welfare and tax reforms can be used to increase personal and business incentives, productivity, the economy's productive capacity and aggregate supply.
- Welfare and tax reforms can help to:
 - slow *cost inflation*, by creating incentives for individuals to work hard and participate, and for firms to invest in new equipment and capacity. They can help ease labour shortages caused by ageing, keeping wage costs down. Tax reform can encourage new investment in equipment with improved technology and efficiency. This can slow production costs.
 - strengthen the *sustainable rate of economic growth* perhaps by using tax reforms to promote greater efficiency by firms and workers where more national output can be produced from the same inputs.
 - reduce *structural unemployment* in the long term, perhaps by decreasing corporate tax rates and making local firms more profitable and internationally competitive so they expand rather than close down with the loss of jobs.
 - improve *living standards* in the long term through better efficiency, increased productive capacity, stronger sustainable rates of economic growth and lower inflation that all help to strengthen real incomes and consumption.
- Welfare and tax reforms can have *weaknesses*:
 - There are often *long time lags* in their implementation and impact.
 - Some undermine the achievement of other government goals, especially equity in income distribution. There can be a *trade-off* between tax and welfare reforms to promote efficiency while protecting equity.
 - Some are politically unpopular and cause adverse *voter reaction*, and may not even be passed by the upper house.
 - Tax reforms are often limited by *financial constraints* and the need to avoid creating permanent structural budget deficits that add to the burden of government debt. In addition, tax revenue needs

to be adequate to pay for adequate government provision of education, health and infrastructure. This limits reductions in tax rates.

- Some welfare reforms, especially those related to tightening access to unemployment benefits, sometimes assume that unemployment is voluntary rather than involuntary. For most, this is not the case.

Using immigration policy to promote the government's domestic macroeconomic goals and living standards

- An important focus of *immigration policy* has been to strengthen the labour market. It does this by setting targets (e.g. 160 000 to 190 000 per year), focusing on younger immigrants with particular skills. It is designed to counter our ageing population, grow the size of the labour force, improve participation and increase the skills available so that the economy's productive capacity or AS is increased.
- Immigration policy can help to:
 - slow *cost inflation*, by increasing the supply of labour in the labour market and relieving skills shortages and bottlenecks that otherwise would lead to higher wage costs and prices
 - strengthen the *sustainable rate of economic growth* by helping to reverse the immediate effects of ageing by increasing access to labour resources with skills that lift labour productivity and Australia's productive capacity
 - grow our productive capacity faster than would otherwise be the case and hence increase the size of Australia's production and income cakes available for distribution, consumption and improving living standards.
- Immigration policy can have *weaknesses*:
 - It is not a permanent or sustainable solution to Australia's ageing population — immigrants also grow old and that would necessitate even more immigration and a much larger and ever-increasing population.
 - Because immigration also adds to the demand for labour along with that for final goods and services (in some cases, more than it adds to their supply), it can cause inflation and lead to shortages, bottlenecks and/or reduced affordability (such as inadequate housing, transport, electricity and water infrastructure, general congestion, accelerated resource depletion).
 - While immigration has greatly enriched our culture and boosted skills, indicators suggest it has also lowered social cohesion, added to unemployment among the young and unskilled, and made it more difficult to achieve improved environmental outcomes. These erode some aspects of Australian living standards.

Some general strengths and weaknesses of using aggregate supply policies to promote domestic macroeconomic goals and living standards

- *Strengths* of aggregate supply policies might include the following:
 - In the long term, they can effectively *reduce structural problems* like cost inflation, the sustainable rate of economic growth and natural unemployment.
 - They can *work in a complementary way* with aggregate demand policies to enhance domestic macroeconomic goals and improve living standards.
 - Often there are *fewer goal conflicts* or trade-offs than when aggregate demand policies are used (thus it is possible to pursue rapid economic growth and still have low inflation using aggregate supply policies, but this is not usually the case with aggregate demand policies).
 - Many aggregate supply policies (such as infrastructure investment, education spending and subsidies) also have useful aggregate demand-side effects that can help promote stability.
- *Weaknesses* of aggregate supply policies might include the following:
 - There are often *long time lags* (many years) for policy implementation and impact (in infrastructure, education, R&D, subsidies, labour market reforms, deregulation of markets, welfare and tax reform), so they are not much use in the short term.

- Aggregate supply policies are *not enough on their own*; they must also be accompanied by aggregate demand policies.
- Some aggregate supply policies make dubious *assumptions about peoples' behaviour* and reaction to positive and negative incentives (such as changes in tax and welfare).
- There are often *political constraints* associated with reforms, immigration and aggregate supply budget measures involving changes in tax and outlays. These can limit the government's policy options.
- There are sometimes *financial constraints* and opportunity costs associated with many aggregate supply policies that limit what the government can do and achieve when there is already concern over government debt.
- There are sometimes *trade-offs* with other government goals, especially in the short term; for example, aggregate supply policies may sometimes undermine full employment and equity in income distribution. This may reduce their net social benefit.

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5.7.2 Key terms

Aggregate supply (AS) is the total or combined supply of all types of goods and services produced over a period by the nation's businesses. It is especially affected by the availability of a nation's resources and the efficiency with which these resources are used.

Aggregate supply policies include a wide range of government strategies that seek to grow the productive capacity or potential of the economy in the long term, by increasing the willingness and ability of suppliers of goods and services (individuals and businesses) to produce, and raising the level of efficiency.

Aggregate supply budgetary policies are measures (e.g. investment spending on infrastructure, outlays on education and R&D) involving changes in various government taxes and outlays in the budget that can grow a nation's productive capacity and potential GDP.

Aggregate supply conditions represent the factors that affect the ability and willingness of sellers of goods and services to actually produce goods and services.

Allocative efficiency is where resources are used in ways that maximise society's satisfaction and opportunity costs are minimised.

Assets or means test are tests applied to welfare applicants to determine whether they are sufficiently needy and eligible to receive welfare. They are designed to exclude middle- and higher-income/wealthier individuals and families from access to benefits.

Dynamic efficiency involves firms being adaptive and creative in response to changing economic circumstances in the ways they use resources.

Efficiency is the ratio of output of goods and services to the input of resources used.

Financial constraints are those limits caused by the high financial costs of applying a given policy that causes the budget deficit to be even larger.

Government R&D grants to institutions, universities, industry and individuals is aimed at cultivating society's knowledge and improving technology. This approach involves cash payments and seeks to grow the quality of our resources (especially capital goods and human capital), and increase technical and dynamic efficiency. Additionally, there are tax concessions provided for R&D to make it more attractive by offsetting part of the cost. In the long term, these outlays expand our economy's productive capacity or potential GDP.

Government spending on training and education represents another outlay in the budget that, among other things, can be used in the long term to cultivate the skills, productivity and creativity of Australia's labour resources (grow our human capital). Such outlays help grow our productive capacity and increase aggregate supply.

Immigration policy is an aggregate supply policy that is now closely geared to help meet the needs of the labour market in our growing economy with an ageing population. It involves setting annual immigration targets to manage the overall number, composition, skills and age of migrant arrivals from overseas. It prioritises those who are more likely to make a very valuable and ongoing economic contribution to the Australian economy.

Immigration target refers to the total number and category of immigrants allowed to enter the country each year. The target for 2019–20 has been set at 160 000.

Infrastructure investment as an aggregate supply measure mostly involves federal government outlays in the budget to grow our capital resources (G_2) such as roads, railways, electricity generation, dams and telecommunications. In turn, these are used by businesses and suppliers to produce other goods and services. They lift efficiency and help to grow our productive capacity and aggregate supply.

Intertemporal efficiency means ensuring there is a suitable balance between resources being allocated towards current consumption on the one hand, and adequate national saving for financing future investment on the other.

Labour bottlenecks are labour and skills shortages that limit a nation's productive capacity perhaps caused by an ageing population, a slowing birth rate, strong economic growth and other factors.

Labour market is an institution where sellers (S) and buyers (D) of labour negotiate wages and conditions. This market has been partly deregulated but still has some government controls. Changes in conditions in this market are affected by the participation rate, population size and growth, age distribution and the availability of skills.

Long time lags are a weakness of many aggregate supply policies. These are the delays in time due to the need to recognise the problem, implement and complete a selected policy, and then wait for it to impact on aggregate supply.

Political constraints are the limits on government policy due to the need of government to maintain its popularity and gain approval for its measures in the upper house.

Productive capacity represents the physical limits (potential GDP) to the total level of production in an economy largely dictated by the quantity and efficiency of resources available.

Productive or technical efficiency is about businesses using least-cost methods to produce goods and services most efficiently.

Subsidies are generally cash payments or tax concessions given by the government to businesses, industries or individuals. When given to producers (rather than consumers), they can help to reduce production costs, encourage firms to restructure their operations more efficiently to become internationally competitive, expand their productive capacity and grow aggregate supply in the long term.

Supply-side budgetary policies are selected measures related to budget receipts and outlays (e.g. investment spending on infrastructure, education spending, subsidies and R&D grants) that can affect the ability and willingness of individuals and firms to produce goods and services and hence the nation's productive capacity, potential GDP and the level of aggregate supply.

Tax base describes whether the coverage of the tax is relatively broad or narrow. For instance, the GST exempts some necessities to make it less regressive, narrowing the tax base.

Tax reform involves changing tax rates and burden along with the tax base. Recent examples include cutting rates of company and income tax. As an aggregate supply policy, usually there is an attempt to lower tax rates to increase incentives to invest, produce and work. The overall aim is to make the tax system more efficient while delivering equity. This helps to grow the economy's productive capacity and aggregate supply, and thereby advance domestic macroeconomic goals and living standards.

Welfare and tax reforms are changes to the conditions that must be met by recipients to qualify for welfare payments, along with reductions in tax rates to strengthen the financial incentives for hard work and business expansion.

Welfare reform entails using the system of government cash benefits to help boost participation rates, and the efficiency and sustainability of the welfare system so that it is financially sustainable and boosts Australia's productive capacity (rather than undermines it), while ensuring that benefits promote an equitable distribution of income for those least fortunate members of society. Welfare reform has attempted to increase the labour force participation rate using strategies like tightening access and eligibility rules for benefits, along with other changes like improved access to affordable childcare.



Digital documents Key terms glossary (doc-31517)

Crossword (doc-31521)

Wordsearch (doc-31522)

Match-up definitions (doc-31523)

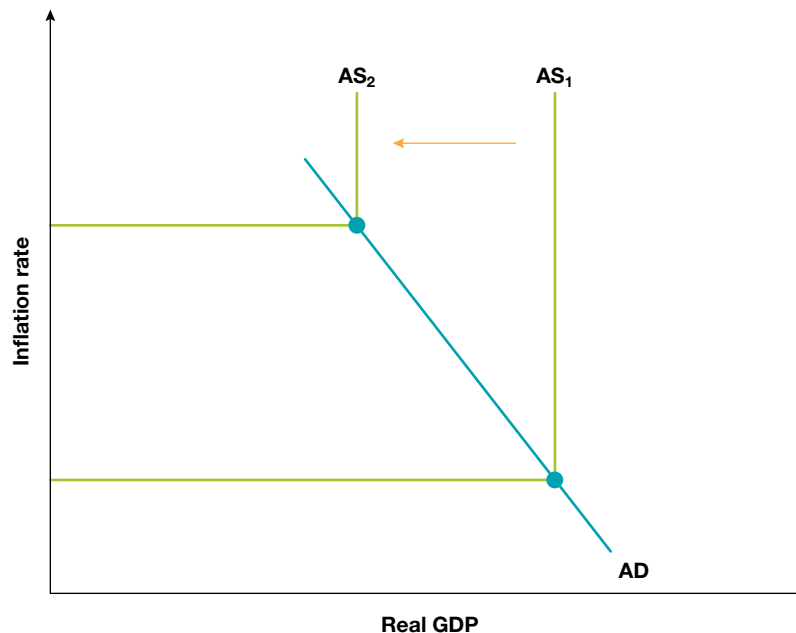
5.7 Review questions

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

5.7 Exercise 1: Multiple choice questions

- Especially in the short term, which of the government's key macroeconomic goals is *most likely* to suffer as a result of using aggregate supply policies?
 - Full employment
 - Low inflation
 - More rapid and sustainable rates of economic growth
 - International competitiveness
- In Australia, aggregate supply policies are justified because:
 - our material living standards have recently been falling relative to those in some countries.
 - Australia's sustainable rate of economic growth should be higher if severe aggregate supply-side constraints limiting rises in productive capacity are reduced.
 - Australia's multifactor productivity level has tended to fall, tending to add to inflationary pressures.
 - all of the above are generally applicable.
- Examine figure 5.34.

FIGURE 5.34 A shift in the AS curve



Which of the following would *not* generally tend to shift the AS curve from AS₁ to AS₂ on the diagram?

- A. A rise in allocative efficiency
 - B. Depletion of natural resources and climate change
 - C. The use of laws that limit competition or create barriers to entry of new firms in a market
 - D. A fall in the VCE retention rate and a decline in government spending on education and training
4. Which statement about aggregate supply policy in Australia is *incorrect*?
- A. The immigration policy has probably resulted in higher levels of unemployment among unskilled migrants than among those born in Australia.
 - B. National infrastructure projects including the NBN have helped to grow productive capacity and cut production costs.
 - C. Budget outlays on education and training help to grow Australia's productive capacity, but only in the short term.
 - D. Government research and development grants usually help to grow technical efficiency.
5. Which statement about Australia's recent immigration policy is *least correct*?
- A. It increases the demand for labour.
 - B. It increases the supply of labour and skills available.
 - C. It lowers the overall labour force participation rate among those with skills.
 - D. It may aggravate environmental problems and reduces housing affordability for those born in Australia.
6. Aggregate supply policies usually *slow* inflation by:
- A. slowing AD and the pressures created by widespread shortages of goods and services and excess expenditure.
 - B. reducing imported inflation caused by inefficiency overseas.
 - C. easing cost pressures on domestic prices through boosting efficiency and competition.
 - D. reducing society's inflationary expectations in the short term.
7. Most *aggregate supply policies* are believed to encourage stronger and more sustainable rates of economic growth in the long term by:
- A. stimulating sales of Australian-made goods and services by making them more competitively priced in domestic and foreign markets.
 - B. boosting access to resources through allocating them more effectively and using them to produce more output with fewer inputs.
 - C. enabling firms to access cheaper inputs, thereby raising business profitability and productive capacity.
 - D. possibly all of the above.
8. Aggregate supply policies designed to grow Australia's productive capacity by improved efficiency in resource allocation are *unlikely* to include the following problems or weaknesses:
- A. Some may increase structural unemployment, especially in the short term.
 - B. Some are limited by financial constraints in the budget.
 - C. They generally have an adverse impact on the long-term sustainable rate of economic growth.
 - D. Some are political unpopular among sections of the voting public and/or have long implementation time lags.
9. Which of the following statements about aggregate supply policy is *most correct*?
- A. Investment in infrastructure affects the levels of both AS and AD.
 - B. Tax and welfare reforms can affect the levels of both AS and AD.
 - C. Both (A) and (B) are correct.
 - D. Neither (A) nor (B) are correct.

10. Which of the following outcomes would hypothetically suggest that the Australian government's aggregate supply policies were partly *ineffective*?
 - A. The NAIRU continued to increase in the long term.
 - B. The sustainable rate of economic growth was stronger, without an inflationary breakout.
 - C. Cost inflation slowed and many goods and services became cheaper.
 - D. Average real per capita incomes were larger and purchasing power greater.
11. Which of the following is *not* an important weakness of some of the Australian government's aggregate supply policies?
 - A. Severe short-term inflationary consequences arising out of structural change
 - B. Rising structural unemployment in the short term in some industries caused by the measures
 - C. Long time lags in the implementation and impact of policy to boost productive capacity
 - D. The political constraints for government wanting to remain popular among voters
12. In general, markets are seen as *more efficient* when:
 - A. governments subsidise most producers and consumers.
 - B. there are government restrictions imposed on the way resources are used.
 - C. inputs rise at a faster rate than output.
 - D. there is stronger competition between rival sellers.
13. Which of the following aggregate supply policies is *most likely* to help promote *lower* unemployment in the long term?
 - A. Cutting government R&D grants and removing tax concessions for firms involved in research
 - B. Decreasing government spending on VET training and education
 - C. Increasing government investment spending on infrastructure
 - D. Increasing the rate of company tax
14. Concerning the effects of immigration policy, which statement is *least correct*?
 - A. Immigration has grown the size of Australia's labour force, allowing for a rise in labour resources and productive capacity.
 - B. The level and composition of entrants can be varied according to domestic economic conditions and the labour market.
 - C. Immigration has overall increased wages for skilled workers.
 - D. The emphasis on attracting young workers means they may make an economic contribution and ease pressure on the budget for some years to come.
15. Comparing aggregate supply policies with aggregate demand policies, which statement is *correct*?
 - A. Aggregate supply policies usually seek to lift efficiency, cut costs and expand productive capacity, while aggregate demand policies are about regulating the growth in expenditure.
 - B. Aggregate supply policies help affect the long-term capacity or sustainable speed limit for economic growth, whereas aggregate demand policies affect the extent to which a nation's productive capacity is actually utilised.
 - C. Both (A) and (B) are correct.
 - D. Neither (A) nor (B) are correct.
16. Which *aggregate supply policy* solution may affect *structural* unemployment (currently running at perhaps 4.5–5 per cent of Australia's labour force)?
 - A. Expansionary monetary measures
 - B. Cuts in revenue collected from indirect taxes
 - C. Government strategies that increase government consumption spending on Australian-made goods and services
 - D. Cost-cutting, productivity-promoting measures that increase the competitiveness of Australian firms

17. Which of the following policy measures designed to boost Australia's potential or sustainable rate of economic growth is probably *least effective*, especially in the long term?
 - A. Continuously expansionary budgetary deficits to stimulate AD
 - B. Reductions in company, capital gains and personal tax rates, and deregulation of the labour market
 - C. Immigration policy to increase the skills of the labour force
 - D. Large infrastructure projects and budget measures to boost national savings to help keep interest rates down
18. Which of the following would have the greatest *negative* effect on Australia's AS line?
 - A. A slowdown in China
 - B. A lower level of household optimism
 - C. The closure of the main Ford, Toyota and Holden manufacturing plants in Australia during 2017
 - D. Lower interest rates on borrowed credit
19. Which statement about the Australian government's investment in economic infrastructure is *least correct*?
 - A. It improves incentives and lowers time and other costs for suppliers of goods and services.
 - B. It reduces bottlenecks that can restrict the growth of businesses.
 - C. It can strengthen business profitability and competitiveness.
 - D. It involves spending on health and schools.
20. Which statement about Australia's recent mixture of aggregate demand and aggregate supply policies is *least correct*?
 - A. Aggregate supply policies are best when used to lower natural unemployment, whereas aggregate demand policies are most effective in helping to lower cyclical unemployment.
 - B. Aggregate supply policies are best when used to cut the size of cyclical unemployment, whereas aggregate demand policies are more effective in helping to make local producers more competitive and lower structural unemployment.
 - C. Aggregate supply policies are best when used to increase Australia's productive potential and long-term or sustainable rate of economic growth, whereas aggregate demand policies are effective in helping to ensure that our productive capacity is not wasted.
 - D. Aggregate supply policies are best when used to lower cost inflation, whereas aggregate demand policies are effective in helping to lower inflation caused by excess expenditure.
21. Which statement about Australia's recent mixture of aggregate demand and aggregate supply policies is *least correct*?
 - A. Infrastructure outlays in the budget include G_2 and impact on the level of aggregate demand, as well as affecting the nation's productive capacity.
 - B. Reductions in marginal rates of personal income tax may help increase incentives to participate in the labour force and grow productive capacity, as well as lift levels of household consumption and AD.
 - C. Welfare outlays in the budget can impact on the level of consumption spending, as well as the participation rate and Australia's level of productive capacity.
 - D. A rise in the rate of the GST from 10 to 15 per cent would be likely to affect the level of AS more than the level of AD.
22. Aggregate supply policies would be *less* necessary or justified if:
 - A. capacity utilisation rates in the economy were low.
 - B. inflation rates were high.
 - C. the NAIRU was trending upward over the last decade or so.
 - D. the sustainable rate of economic growth was slowing.

23. Which of the following is *not* a weakness of aggregate supply policies?
- A. Their general inability to increase productive capacity faster than AD
 - B. A long impact lag
 - C. A long implementation lag
 - D. The possibility of adverse voter reactions, especially in an election year
24. Effective aggregate supply policies do *not*:
- A. significantly increase structural unemployment in the long term.
 - B. ensure that rising spending and wants can be better satisfied through growing the economy's productive potential.
 - C. make local producers more internationally competitive, ultimately strengthening employment prospects.
 - D. slow cost inflation.



Resources



Digital documents Multiple choice answer grid (doc-31519)

Multiple choice answers (doc-31520)

5.7 Exercise 2: Extended response questions

1. In what important ways do *aggregate supply policies* differ from *aggregate demand policies*? **(3 marks)**
2. Examine how *welfare reforms* or *tax reforms* as *aggregate supply policies* would be likely to affect each of the following domestic macroeconomic economic goals: **(4 marks)**
 - a. the goal of full employment
 - b. the goal of a strong and sustainable rate of economic growth.
3. In his 2017–18 budget speech, the then treasurer, Scott Morrison, stated that ... ‘to support growth, we choose to invest in building Australia, rail by rail, runway by runway and road by road ... and back small business even further’. In the 2018–19 budget he mentioned that he is ‘... backing business to invest and create more jobs’ and he is ‘... busting congestion in our cities’. The 2019–20 budget mentioned that the budget plan ‘... strengthens our economy and creates more jobs ...’. Keeping in mind these quotes, select the *two* most important aggregate supply *budgetary policy measures* from the Treasurer’s 2017–18, 2018–19 or 2019–20 budget speeches and explain how each policy measure might help promote a *strong and sustainable rate of economic growth* and *better living standards*. **(6 marks)**
4. Explain the likely effects of the Australian government’s recent immigration policies, as an example of an *aggregate supply policy*, on each of the following: **(6 marks)**
 - a. the labour market
 - b. Australian living standards.
5. Giving examples, discuss the advantages and disadvantages of using *government subsidies* or *government R&D grants* as an aggregate supply budgetary measure designed to help *improve efficiency* in the allocation of Australia’s resources. **(4 marks)**
6. Identify and explain two important *advantages* and two important *disadvantages* of using *aggregate supply policies* to help lift Australian living standards. **(4 marks)**
7. How might *aggregate supply policies* be used to *complement aggregate demand policies* in helping to promote better living standards? **(6 marks)**
8. Distinguish between *allocative efficiency* and *intertemporal efficiency* in allocating Australia’s resources. **(3 marks)**
9. Select an appropriate *aggregate supply measure* and explain how it might be used to *slow inflation*. **(3 marks)**

10. Government *aggregate supply interventionist policies* seek to make supply conditions more favourable by reducing market failure. Giving an example, explain how these might work to help *grow productive capacity*. (2 marks)

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5.7 Practice school-assessed coursework

A total of two SACs are to be completed for VCE Economics Unit 4. SAC 2 is worth 50 per cent of the total assessment for Unit 4. It assesses the skills and knowledge associated with Outcome 2 that is largely covered in topic 5. The SAC should be part of the regular teaching and learning program, and completed mainly in class and within a limited timeframe. The SAC could involve one or more of the following tasks:

- a folio of applied economics exercises
- structured questions
- an essay
- a report
- problem-solving exercises
- a blog of media commentaries.

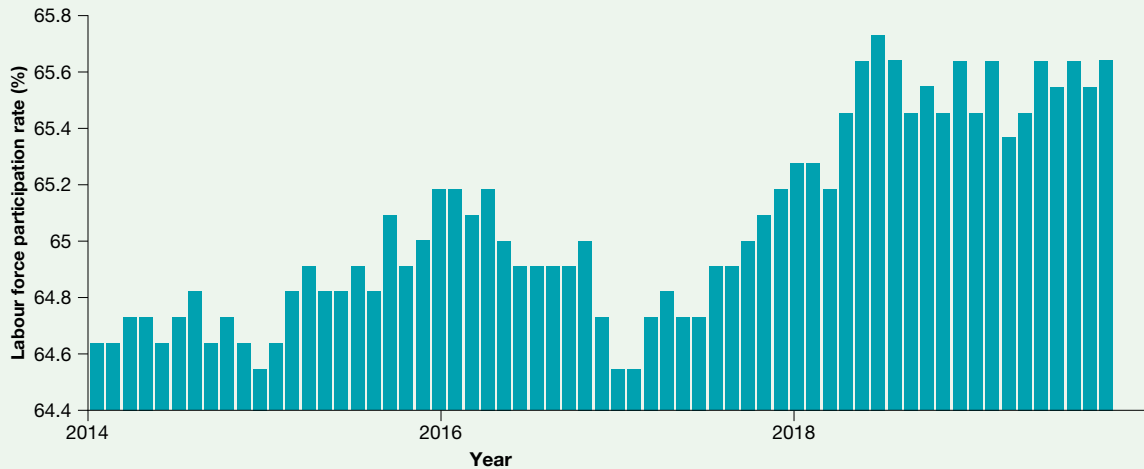
Courses and assessments can change, so teachers are urged to carefully check the latest VCAA *assessment guide* and various *bulletins* to ensure that all the assessment requirements are met fully.

A FOLIO OF APPLIED ECONOMICS EXERCISES

1. (a) What are government *aggregate supply policies* and what are their main aims or objectives? (3 marks)
(b) During the 2017–18, 2018–19 and 2019–20 budgets, treasurers referred to the federal government's desire to reduce 'cost of living pressures' for households.
 - i. As an *aggregate supply policy*, explain how increased government investment spending on *national infrastructure projects* might ultimately help reduce *inflationary pressures*. (3 marks)
 - ii. Referring to specific examples of projects, how might government *infrastructure spending* in recent federal budgets be likely to affect our *international competitiveness*? (2 marks)

2. Examine figure 5.35 showing recent changes in Australia's labour force participation rate (LFPR).

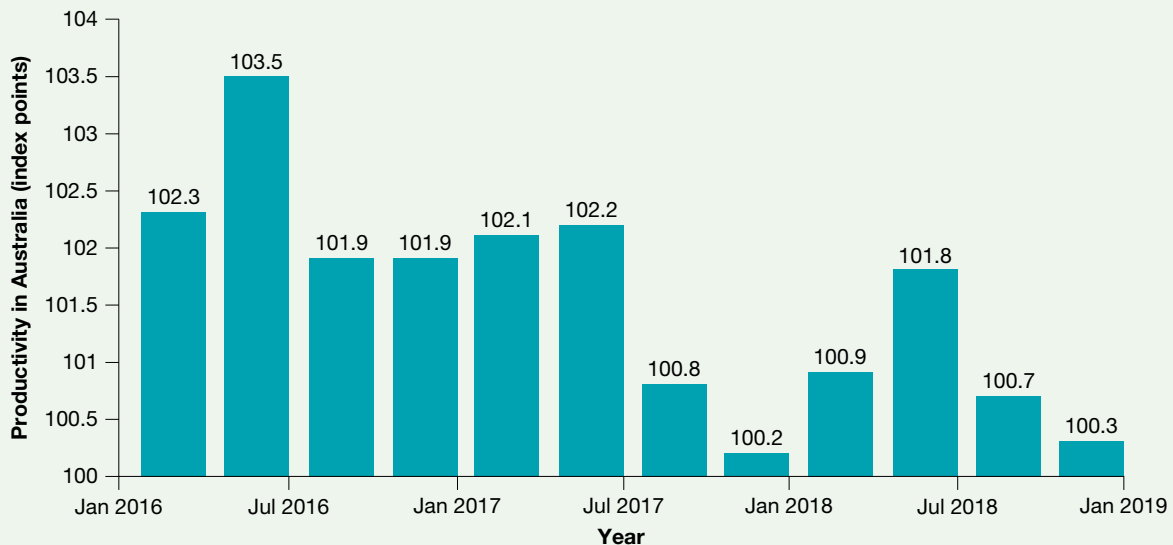
FIGURE 5.35 Changes in Australia's labour force participation rate



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- Define the *labour force participation rate* (LFPR) and then, referring to the above graph, describe the overall trend in Australia's LFPR between 2014 and mid 2019. (2 marks)
 - Identify and outline the nature of two important aspects of *welfare reform* that might help to account for this overall trend in Australia's LFPR between mid 2014 and mid 2018. (2 marks)
 - Outline how would you expect *welfare reforms* as an *aggregate supply policy* to affect Australia's:
 - unemployment rate in the short-term
 - the long-term sustainable rate of economic growth. (4 marks)
3. Examine figure 5.36 showing recent quarterly changes in the index of Australia's *labour productivity* (base = 100 points).

FIGURE 5.36 Recent trends in Australia's labour productivity



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- Explain how you would expect the recent overall trend in *labour productivity* between mid 2016 and early 2019 to affect Australia's *international competitiveness*. (2 marks)
- As an *aggregate supply policy*, explain how the government's key policies on *education and training* might help to strengthen Australia's *international competitiveness*. (2 marks)

4. In recent years, the federal government has announced reforms of personal income tax and company tax. As an *aggregate supply policy*, explain how the implementation of changes to company tax rates might help to lower our unemployment rate and improve the non-material living standards of ordinary Australians. (3 marks)
5. Australia has an ageing population. Explain how this would be likely to affect our *potential level* of GDP and incomes. (2 marks)
6. Explain how the federal government's recent *immigration policy* is likely to have affected Australia's potential *rate of economic growth*. (3 marks)
7. Discuss how recent *immigration policy* is likely to affect Australia's *inflation rate*. (3 marks)
8. Choose *one* of the following aspects of aggregate supply budgetary policy:
 - welfare reforms
 - R&D grants.
 As an aggregate supply policy, explain how your selected measure might affect the achievement of one of the Australian government's three domestic macroeconomic goals. (4 marks)
9. All economic policies have weaknesses. Identify and explain the main *weaknesses* of using aggregate supply policies to help promote the Australian government's key domestic macroeconomic goals. (4 marks)

AN ESSAY

Select *one* of the three following questions and write an essay of around 800–1000 words. (20 marks)

1. Discuss how the application of welfare and tax reforms could be used by the government to:
 - grow aggregate supply
 - lower inflation
 - strengthen economic growth
 - promote full employment
 - improve living standards.
2. Select any *one* of the following *budgetary policies* designed to affect the level of aggregate supply:
 - (i) government investment in national infrastructure projects
 - (ii) government spending on education and training
 - (iii) government R&D grants and tax concessions
 - (iv) government payment of subsidies.
 Explain how this policy might affect aggregate supply. In addition, discuss how the application of this selected policy is likely to impact on the following government domestic macroeconomic goals:
 - low inflation
 - strong and sustainable economic growth
 - full employment
 - living standards.
3. Analyse how you would expect Australia's recent *immigration policy* to impact on
 - the labour market
 - aggregate supply
 - the inflation rate
 - the sustainable rate of economic growth
 - living standards.

PROBLEM-SOLVING EXERCISES

A possible task for Unit 4, SAC 2 is a problem-solving exercise. The following may provide you with practice for this type of question.

Atlantis is going under!

Imagine that you have been appointed to the position of head of the economic taskforce set up to advise the government of Atlantis about various aggregate supply policies. This action was prompted by the fact that economic conditions had deteriorated seriously over the 10 years to 2020. Table 5.10 summarises the dire economic problems faced by Atlantis, relative to those a decade earlier.

TABLE 5.10 Economic indicators for Atlantis over the 10 years to 2020

Economic indicators for Atlantis	Average annual percentage change
Change in GDP growth rate	1.8
Change in the unemployment rate	7.9
Change in real household consumption per head per year	1.5
Change in population size	2.1
Change in the inflation rate	4.1
Change in labour productivity	0.1
Change in multifactor productivity	1.2
Change in RULCs	3.5
Change in the value of the TWI	5.0
Change in the minimum wage	4.3
Change in the participation rate	1.0
Change in students completing a tertiary course	0.5
Change in the average time taken to travel to work	3
Change in the number of welfare dependants	2.2

- Using the following headings, briefly outline the economic conditions that had developed in Atlantis over the 10-year period.
 - Inflation
 - Unemployment
 - Economic growth
 - Material living standards

(2 marks)
- Using a labelled AD–AS diagram, in *general* terms explain how aggregate supply policies could potentially help to correct the economic problems experienced by Atlantis over the last 10 years to 2020. **(6 marks)**
- Select *two* aggregate supply policies and explain how similar policies to those used in Australia might help to alleviate Atlantis's economic problems.
 - Investment in infrastructure
 - Welfare and tax reforms
 - Spending on education and training
 - R&D grants

(12 marks)
- Identify and outline *two* problems that may arise with the policies you selected (see your answer to part 3), if they were used to promote domestic macroeconomic goals and living standards. **(4 marks)**

A BLOG OF MEDIA COMMENTARIES

Your task is to collect a range of media commentaries about recent aggregate supply policies that have or might be adopted by the Australian government. These articles might include:

- budgetary policies involving education and training, national infrastructure spending projects, R&D grants and targeted subsidies that are designed to help grow productive capacity and aggregate supply
- welfare and tax reform measures that seek to grow capacity and aggregate supply
- immigration policies designed to affect the labour market.

Articles could be sourced online or in hard copy from print media. These articles could then be used as the stimulus for an online blog.

END-OF-YEAR EXAMINATION

Outline

All students of VCE Economics Units 3 and 4 are required to sit an end-of-year examination in November on a date determined by the VCAA. This examination, which is set and marked by the VCAA, constitutes *50 per cent of the total assessment*, the remaining 50 per cent being made up of *school-assessed coursework*. Given the relative importance of the examination, it is vital that students prepare very thoroughly.

Format

While exact details of this *2-hour examination* need to be checked in the latest *VCAA Study design (2017–21)*, it is likely that there will be two main types of question, worth a total of 80 marks, that cover all parts of Units 3 and 4:

1. 15 multiple-choice questions (each worth 1 mark; 15 marks in total)
2. structured short-answer questions (worth 65 marks in total).

When answering these questions, students will be expected to analyse and interpret material related to the various knowledge and skills outcomes stated in the current Economics Study Design. Some of the questions found in past VCAA examination papers applicable to the previous course, may also provide a useful guide.

More precise details relating to this task and the criteria to be applied for marking will be published annually by the VCAA.

Constructing a revision timetable

Effective revision for examinations is not something that can be left to chance. You need to construct a plan of attack or timetable of how you will use the limited time you have set aside for revision. This timetable should include not only your planned study in Economics, but also that for your other subjects such as English. It should also indicate when your examinations occur. One possible revision format is shown in the table below. Notice that each study day has been allocated *three* lines or possible study slots of time (morning — say, 9 am to noon, afternoon — say, 2 pm to 5 pm, and evening — say, 7 pm to 10.00 pm) and that there are two columns — one for the day and date, and one for the subject to be studied or exam. Starting from your last examination, you should complete a larger version of this table by working backwards and allocating the number of study slots more or less evenly between subjects, ensuring that all the relevant course topics have been covered for each subject.

Day or date of study	Subject or topic within a subject to be studied, or examination
Saturday, November . . .	1.
	2.
	3. Economics — revise introduction to microeconomics (topic 1), including a wide selection of exam questions related to this area of study
Sunday, November . . .	1. Economics — revise economic activity and key domestic macroeconomic goals of the Australian government (topic 2), including a wide selection of exam questions related to this area of study
	2.
	3.
Monday, November . . .	1.
	2.
	3. Economics — complete a wide range of questions from past papers
Tuesday, November . . .	1.
	2. End-of-year Economics examination

Getting organised

For Economics, it is a good idea to *create a small revision folder for each key topic* on the course; for example, include a folder covering Australia's economic system, economic activity, government goals, aggregate demand policies (budgetary policy, monetary policy) and aggregate supply policies (such as microeconomic policy and policy mix). In each folder collate your summary notes, completed exercises and tests, definitions sheet, sample questions and answers from past examination papers, and a fact and example sheet relevant to that particular topic. This means that when you study, you need to have only one small folder of information on your desk at a time. This helps to make the task of revision less daunting and more focused.

Start active revision

Unfortunately, many students do not know how to go about effective revision. Most of us try to learn by sitting at our desks and simply reading through pages of notes. This is a very passive form of revision. A more effective approach involves active revision. *Active revision* could mean using a broad combination of the following:

- reading and highlighting key point notes
- summarising notes, perhaps even by constructing careful concept maps
- self-testing of key points, definitions and recent facts and examples
- writing out brief but sharp definitions of commonly used terms on which you should then test yourself
- constructing fact and example sheets by topic and then testing yourself on these
- practising a wide range of multiple choice and structured short-answer questions taken from past final examinations (especially the more recent ones since 2017 based on the new course) and from your text, completed against the clock, before seeking teacher feedback on your responses
- being part of a small student study group
- being actively involved in class discussion
- discussing with your teacher particular problems or parts of the course which you do not understand
- attending revision lectures.

Know the different types of instructions for short-answer questions

A common problem faced by students in both tests and examinations is answering precisely the type of question that has been asked. Here are some of the more common types of questions (instructional verbs) found on tests and end-of-year examinations:

- **Describe** questions require you to give an account.
- **Discuss** questions require that you look at and weigh up the arguments both for (strengths) and against (weaknesses) a point of view, thereby finally arriving at a reasoned conclusion.
- **Explain** questions expect you to make something very clear and to show logical reasoning.
- **Outline** questions mean providing a brief account of the main points.
- **Summarise** questions expect you to list the main points.
- **Evaluate** or **judge** questions want you to list and then weigh up the arguments both for (strengths) and against (weaknesses) a point of view.
- **Define** questions require that the meaning of terms or concepts be specified, spelt out or made clear.
- **Distinguish** or **contrast** questions involve listing and then explaining the differences between things.
- **Compare** questions mostly expect you to explain or highlight the points of similarity.
- **Identify** questions want you to list and briefly explain the key points.
- **Predict** questions expect you to make an educated guess about what may occur in the future, based on sound reasoning.
- **Why** questions expect you to explain clearly the reasons for something.
- **Calculate** questions expect you to use mathematics or numbers to estimate a figure.
- **Comment** questions require that you elaborate and provide an educated or reasoned opinion about a statement or quotation.
- **Examine** questions expect you to look at the merits or otherwise of something, giving clear reasons.

Have an examination strategy worked out

Here are a few tips for success once you enter the exam room.

- **Reading time.** Use the 15 minutes of reading time effectively to understand and think about the meaning of the structured short-answer questions. Then if time permits, try mentally completing perhaps the first five or so multiple choice questions very carefully. Try to focus on what you do know rather than on what you don't know about a topic. At the end of 15 minutes, you will be told that you may commence writing. Start writing by filling out your student number on the front page of the examination booklet and also on the multiple-choice answer sheet (the latter sheet must be completed using a soft grey-lead pencil).
- **Multiple choice questions.** Many students start with the multiple-choice section of the paper. However, if you are rattled by exams, this may not be a wise approach since it is very easy to misread questions and make careless mistakes. It is a good idea to use a pen to underline key words in each question on the paper (e.g. words such as likely, unlikely, does not, false, true) to avoid careless reading. In each question, start by eliminating the most obviously inappropriate answers. In the end, if you are still unsure of the correct answer, guess from those answers not eliminated (currently assume that no marks are lost nor gained for incorrect responses). The multiple-choice answer sheet must be completed neatly in pencil, with any errors fully erased.
- **Structured short-answer questions.** Before writing your short answers (preferably using a black or blue biro), spend a couple of minutes re-reading the question carefully, then brainstorming and jotting down a plan of some key words or points that come to mind. Ensure that you address all aspects of the question. Be sure to follow the question instructions carefully (review the earlier list of instructional verbs which outlined the types of questions commonly asked). Often, it is a good idea to start short answers with a brief definition of a key term and then get quickly into making a number of clear points. Each of these points should be developed using step-by-step explanations that visibly show your reasoning. It is often appropriate to back up or illustrate the point with facts and recent examples. Ensure that the length of your answer is appropriate for the number of marks allocated to the particular part of the question. As a very rough guide, you should spend about 1.5 minutes answering a question worth 1 mark, 3 minutes for 2 marks, and so on. In addition, the length of your answer should be guided by the number of lines left for your written response. So for a question worth 2 marks, normally, 8 lines of space will be provided, while for a 4-mark question, there will be 16 lines of space. However, it is not always necessary to fill all the lines, if words are used efficiently. There is no point of overkill on an answer worth only, say, 2 or 4 marks and then writing almost nothing about a question worth 6 or 8 marks because you have run out of time.
- **Time allocation.** Remember, there is an opportunity cost in an exam where you write unnecessarily long answers to a question or employ time-wasting strategies such as using 'liquid paper' or an eraser to remove mistakes instead of drawing a simple line through the mistake; ruling up margins; using coloured pens for headings; writing out the question at the top of your answer; explaining a point and then going through the reverse of a symmetrical argument in detail; gazing blankly out of the window; sleeping (make sure you get enough sleep beforehand). It may mean that you are unable to answer another question or get the exam finished. This could have a disastrous effect on your overall result. If you do find that you are short of time, it is better to have a list of key points or a plan jotted down as your answer than leaving an empty page. At least you have the potential to earn some marks.

Good luck!

MULTIPLE-CHOICE ANSWERS

TOPIC 1

AN INTRODUCTION TO MICROECONOMICS

Question	Answer
1	A
2	A
3	B
4	C
5	B
6	D
7	A
8	B
9	D
10	D
11	C
12	D
13	A
14	D
15	B
16	B
17	D
18	D
19	D
20	A
21	A
22	D
23	C
24	D
25	B

Question	Answer
26	B
27	A
28	B
29	A
30	C
31	A
32	A
33	D
34	A
35	B
36	A
37	A
38	B
39	D
40	D
41	B
42	B
43	C
44	D
45	B
46	B
47	D
48	C
49	D
50	B

TOPIC 2

ECONOMIC ACTIVITY AND AUSTRALIA'S GOALS

Question	Answer
1	D
2	D
3	D
4	D
5	B
6	A
7	B
8	B
9	A
10	B
11	A
12	D
13	C
14	C
15	C
16	A
17	B
18	D
19	C
20	D
21	C
22	B
23	D
24	D
25	D
26	B
27	B
28	B
29	A
30	A
31	B
32	D
33	C
34	C
35	A
36	C
37	C
38	C
39	D
40	D

Question	Answer
41	D
42	D
43	A
44	B
45	B
46	D
47	B
48	C
49	B
50	D
51	A
52	D
53	D
54	B
55	C
56	C
57	B
58	A
59	B
60	B
61	A
62	D
63	B
64	B
65	D
66	C
67	C
68	D
69	C
70	A
71	C
72	B
73	C
74	D
75	D
76	D
77	C
78	A
79	A
80	D
81	D
82	B

TOPIC 3

AUSTRALIA AND THE WORLD ECONOMY

Question	Answer
1	D
2	A
3	D
4	B
5	C
6	B
7	D
8	C
9	B
10	B
11	A
12	D
13	C
14	D
15	A
16	D
17	B
18	A
19	A
20	B
21	D
22	C
23	D
24	D
25	D
26	A
27	B
28	B
29	A
30	B

TOPIC 4

AGGREGATE DEMAND POLICIES AND DOMESTIC ECONOMIC STABILITY

Question	Answer
1	D
2	C
3	D
4	A
5	D
6	D
7	A
8	D
9	A
10	D
11	C
12	B
13	A
14	B
15	B
16	D
17	C
18	B
19	C
20	B
21	B
22	C
23	C
24	D
25	B

Question	Answer
26	B
27	B
28	D
29	D
30	B
31	A
32	B
33	D
34	D
35	B
36	D
37	D
38	D
39	B
40	A
41	C
42	C
43	D
44	C
45	C
46	C
47	A
48	B
49	A
50	B

TOPIC 5

AGGREGATE SUPPLY POLICIES AND DOMESTIC ECONOMIC STABILITY

Question	Answer
1	A
2	D
3	A
4	C
5	C
6	C
7	D
8	C
9	C
10	A
11	A
12	D
13	C
14	C
15	C
16	D
17	A
18	C
19	D
20	B
21	D
22	A
23	A
24	A

ECONOMICS DICTIONARY

Absolute cost advantage occurs in international trade when one country can produce a product more cheaply and efficiently than all other nations.

Age–sex distribution of the population is the way the nation’s total population is spread among different age and gender groups; for example, 0–4 years, 45–49 years and so on.

Aged pension is a cash welfare payment or transfer to aged individuals who meet the assets and means tests. Until recently, this could be accessed by those eligible over 64 years of age. A few years ago, it was announced that the pension age would be slowly increased to 67 years by July 2023. The proposal to increase this to age 70 has not yet been formally adopted. *See* welfare benefits.

Ageing population occurs when the median age of a country’s population is rising and there is a larger proportion in older age groups. This problem has implications for Australia’s rate of economic growth and government budget outcomes.

Aggregate demand (AD) is the sum or total value of all spending or demand on final (finished) goods and services produced by a nation and measured over a period of time. It represents the total value of effective demand composed of private consumption spending (C), plus private investment spending (I), plus government consumption or current spending (G_1), plus government investment or capital spending (G_2), plus spending on exports of goods and services (X) minus spending on imports of goods and services (M); that is:

$$\text{Aggregate demand} = C + I + G_1 + G_2 + X - M.$$

The growth in these components of AD is affected by changes in aggregate demand conditions/factors. Here we think of factors like consumer confidence, business confidence, overseas economic activity, disposable income and interest rates. *See* aggregate demand management policies; budgetary policy;

countercyclical budgetary policies; Keynes, John Maynard; monetary policy.

Aggregate demand factors or conditions are the key macroeconomic influences on the total level of spending in an economy. They affect the level of AD and its components, $C + I + G + X - M$. Here we think of influences such as changes in consumer confidence, business confidence, tax rates, disposable income, the exchange rate for the Australian dollar, the terms of trade, the stance of government budgetary and monetary policies (interest rates), the rate of growth in population and the level of overseas economic activity (in China or the US, for example). Generally stronger aggregate demand conditions cause spending and economic activity to rise, while generally weaker conditions cause spending and economic activity to slow. *See* aggregate demand management policies; boom; countercyclical budgetary policies; recession.

Aggregate demand management policies include a mixture of macroeconomic budgetary policies and monetary policies designed to regulate or influence the overall level of spending on domestically-made goods and services, or AD ($C + I + G + X - M$). Their aim is to reduce the short-term or cyclical changes in the level of economic activity through applying policies in a countercyclical way. Hence these policies need to be expansionary during slowdowns to lift AD and contractionary in booms to slow AD to sustainable levels.

Aggregate demand–supply diagram is a diagram showing that the equilibrium level of economic activity is dictated by the levels of both aggregate demand and aggregate supply. Equilibrium occurs at the level where the two lines intersect, producing a certain level of national output, employment and prices.

Aggregate supply (AS) is the total physical supply of goods and services from all sectors produced at different price levels over a period of time in the economy. In a general sense, aggregate supply (AS) is influenced by the willingness or ability of producers and firms to supply goods

and services. In turn, this responds to a number of factors. For example:

- the availability of resources (new discoveries, drought) influences productive capacity and AS
- the efficiency with which resources are used influences productive capacity and AS
- the level of production costs (wages, interest rates, taxes, government charges, raw materials), and their impact on business profitability, affects productive capacity and AS. *See* supply-side economic theory.

Aggregate supply budgetary policy measures seek to use changes in budget receipts and/or outlays to help allocate more resources into key areas, correct market failure, promote greater efficiency, reduce production costs and build the economy's long-term productive capacity. Examples include government investment in infrastructure, the abolition or reduction of tax rates on companies and individuals, outlays on education, training and R&D, along with welfare, childcare and tax measures that increase the participation rate in the labour force.

Aggregate supply factors are the macroeconomic influences on an economy's productive capacity or potential level of GDP. They include changes in the quantity and quality of natural resources (such as water, climate and mineral deposits), capital equipment (e.g. machines and technology) and labour resources (mental talents and physical power), general business costs (such as RULCs, interest rates, local and imported materials and equipment, oil prices) and profitability levels, climatic conditions including drought, productivity levels, labour force growth and participation rates, the ageing population, access to adequate infrastructure, and government aggregate supply policies (e.g. microeconomic reforms, aspects of budgetary policy like tax rates and infrastructure spending, immigration policy and environmental policies). *See* aggregate supply policies.

Aggregate supply policies are cost-cutting, efficiency-promoting, incentive creating government measures that aim to make the conditions for firms and individuals producing or supplying goods and services more favourable in the long term, so economic activity will flourish

and expand the economy's productive capacity and hence, the potential rate of economic growth. These measures include aggregate supply aspects of budgetary policy (e.g. outlays on subsidies, education and training, R&D grants, targeted subsidies and government investment spending on national infrastructure projects), trade liberalisation, tax and welfare reforms, and immigration policy (setting targets for the inflow of migrants, especially those with skills). *See* aggregate supply factors.

Allocation of resources is how a nation will use its scarce factors of production, including land and natural resources, labour and entrepreneurial skills, and capital goods and technology. For example, will resources be used to produce cotton or wool, cars or public transport, education or hospitals? *See* efficient allocation of resources.

Allocative efficiency is a desirable situation where resources are used for producing the particular types of goods and services that best satisfy society's needs and wants. Producing the 'right' goods and services means that, generally, consumers get what they most want. Many economists argue that this is more likely to occur in highly competitive markets using the price system. *See* efficiency.

Appreciation of the exchange rate involves an increase in the rate at which foreign currencies are exchanged, swapped or converted into Australian dollars; for example, before an appreciation of the exchange rate, A\$100 = US\$100; after an appreciation of Australia's exchange rate, A\$100 = US\$120.

Asia-Pacific Economic Cooperation (APEC) is a regional forum aimed at promoting freer trade among 21 member countries.

Assets are items of value owned by a person, bank or company. In the case of bank assets, assets include bank buildings, loans and advances and liquid reserves.

Assets test is used to help decide who is eligible for an aged pension and some other types of government welfare benefits. The family home is excluded from this test, but other assets exceeding a given value are not. *See* means test.

Asymmetric information occurs when one group has more knowledge of the market than others. For markets to allocate resources efficiently,

buyers and sellers need to have complete and reliable knowledge of all the relevant information affecting their decisions. Unfortunately, this sometimes does not happen. Often, for example, sellers have more information than buyers in a transaction, so rational choices and efficient decisions about resource allocation cannot be made. Here, the market fails to work well and it is one instance of market failure. There are many instances of this type of market failure; for example, insider trading in the share market; the sale of properties where the current homeowner knows more about the property than the prospective tenant/buyer; the sale of secondhand cars where the seller knows more about the vehicle quality than prospective buyers; and online dating sites where one individual knows more than the other. *See* market failure.

Australian Competition and Consumer Act (2010) is legislation that makes price and other forms of collusion and price fixing by firms illegal.

Australian Competition and Consumer Commission (ACCC) is a government institution created in 1995 to help promote competition and increase productivity. It enforces the provisions of the *Australian Competition and Consumer Act* of 2010. This law outlaws strategies that limit price competition by sellers, including price fixing, price collusion, market zoning, collusive tendering and price gouging. The ACCC may also approve takeovers and mergers if these are in the public interest, and is involved with surveillance of prices in industries where competition between private and/or public firms is weak.

Australian Trade Commission (Austrade) is a government statutory authority designed to promote Australian exports abroad.

Automatic stabilisers (also called cyclical stabilisers) are components of the budget (tax receipts and welfare outlays) that automatically help iron out cyclical booms and recessions in a countercyclical way. They work by changing the level of aggregate demand and economic activity in the desired direction without the need to resort to discretionary policy changes. For example, during a slowdown, revenues from excise, personal and company tax automatically start to drop because of falling sales, incomes and profits; simultaneously, welfare outlays (especially spending on unemployment benefits)

rise because more people qualify due to lower incomes. This makes the budget more expansionary on AD and economic activity. In reverse, during rising economic activity, tax revenues gradually rise and welfare outlays fall automatically, making the budget less expansionary and eventually more contractionary.

Average weekly earnings (AWE) represent the gross weekly earnings before tax and other deductions per worker. The ABS derives these figures by dividing gross earnings by estimates of employment using a sample survey technique.

Award wage is the legal minimum wage that can be paid by an employer. It is set by the Fair Work Commission and acts as a safety net for low-paid workers. In 2019–20, this is set at \$740.80 for a fulltime adult employee (up 3 per cent on the level in 2018–19).

Baby boomers refers to the larger than average group of people born in the 10–15 years or so following the end of World War II in 1945. There was a boom in the birth rate at this time following disruptions associated with war. Currently, this group is at, or nearing, retirement age and this is likely to slow government tax revenue in the budget and increase health and welfare outlays.

Balance of (merchandise) trade represents the difference between the total value of exported merchandise (goods) and the total value of imported merchandise. It is normally measured ‘free on board’ (FOB): it excludes freight and insurance, which are included under ‘net services’. *See* net goods.

Balance of payments account is an annual financial summary of transactions between Australia and the rest of the world. The overall balance of payments is broken into *two* main sub-accounts:

1. *The balance on current account.* This represents the difference between the total value of credits minus debits for merchandise (goods), services, primary incomes and secondary incomes over a given period of time.
2. *The balance on capital and financial accounts.* The balance on *capital* account represents the difference between total credits minus debits for capital transfers and the acquisition of non-produced, non-financial assets. The balance on *financial* account is the difference between total credits minus debits for direct,

portfolio and other capital along with reserve assets. In addition, any errors and omissions are factored into the final result.

Balanced budget occurs when the total value of government outlays equals the total value of government receipts in a given year's budget. Some claim this may have a neutral impact on the level of economic activity. *See* fiscal balance.

Bank overdraft is where the bank agrees with a client to allow an account to be overdrawn in return for the payment of interest. This provides a client with credit.

Barriers to entry occur when monopolies and oligopolies try to suppress competition by would-be rivals in an industry. These barriers may include the conduct of a price or advertising war, or collusion with existing firms to exclude newcomers.

Base year is a concept used in the construction of statistical indices (such as CPI, TWI) where a particular year is designated as the period or standard against which others are compared. Usually the base year is given a value of 100 index points.

Better off overall test is used to assess whether an enterprise agreement is acceptable according to the Fair Work Commission. The enterprise agreement entered into must show that employees are better off overall than under the relevant modern award that incorporates the ten national employment standards.

Bilateral trade agreements are trading arrangements between two nations designed to foster the exchange of goods and services (e.g. Australia's Closer Economic Relations Trade Agreement (CER) with New Zealand) along with free trade agreements with the US, Singapore, Thailand, China, ASEAN, Korea, Japan, China, Malaysia and Chile. Negotiations are also under way with India and the European Union.

Black market is the illegal sale of goods and services. This sector's production is not included in calculations of the value of GDP.

Boom is a period of economic instability where the economy experiences overfull employment and inflation caused by an excessively rapid expansion of aggregate demand. This undesirable situation cannot be sustained and may lead to uncertainty, reduced purchasing power of incomes, the redistribution of income creating

greater inequality, and deterioration in a nation's trading position. Typically, governments adopt more contractionary aggregate demand policies in booms (e.g. higher interest rates) to help slow spending and inflation.

Bottlenecks to production are limiting factors that restrict the increase in the national supply of goods and services (GDP). There are many potential aggregate supply-side bottlenecks that stop or slow down the growth in a country's production possibility frontier or that limit the size of the AS line. These factors included the lack of public infrastructure in areas like power, water, transport and communications, a shortage of skilled labour, the drought, an ageing population and areas of inadequate natural resources. These slow the sustainable rate of economic growth. Aggregate supply policies are needed to correct these bottlenecks. *See* aggregate supply policies; immigration policy.

Bounded rationalism challenges the traditional belief that consumers always make rational economic decisions where they conduct careful research, order priorities, and weigh up the pros and cons. Instead, this theory suggests that consumers take short cuts in making economic decisions by following the status quo or adopting herd behaviour; for example, because they lack the time, did not always have access to the necessary knowledge or have the intellectual capacity to accurately weigh up the evidence.

Bracket creep (also called 'fiscal drag') occurs when recipients of rising income gradually move into higher income tax brackets, which raises their tax burden. From time to time, this will be offset by changes to marginal tax rates and tax thresholds.

Budget is a document that sets out the government's planned receipts and outlays for the next financial year, based on certain assumptions. Receipts predominantly come from PAYG and company tax, while outlays are directed into welfare, education, defence and health. The budget can be used as an aggregate demand policy to regulate the level of spending, but it can also be used as an aggregate supply policy designed to grow a nation's productive capacity.

Budget deficit represents a situation where the total value of government outlays exceeds the total value of its receipts for a period of time, which

happened between 2008–09 and 2018–19. Larger deficits, financed by overseas borrowing, may have an expansionary effect on aggregate demand and hence economic activity. *See* aggregate demand management policies; automatic stabilisers; discretionary stabilisers; expansionary budget.

Budget expenses or outlays in the budget are expenses involving, for example, the provision of goods and services for the community like health, education and welfare.

Budget outcome refers to the overall type of budget as determined by whether it is a deficit (where receipts are less than outlays) or surplus (where receipts are greater than outlays).

Budget repair levy was introduced in the 2014 budget and represents a rise in the top marginal tax rate, from 45 to 47 per cent, for high income earners with taxable incomes in excess of \$180 000 (not including the 2 per cent Medicare levy). It was intended as a temporary measure to help return the budget to surplus. This levy was abolished from July 2017, causing the top marginal income tax rate to return to 45 per cent (before the 2.0 per cent Medicare levy).

Budget revenues or receipts are the federal government's incoming receipts of money that pay for budget outlays. Taxation, for example, is a major source of revenue for the government.

Budget stance refers to whether the budget is neutral, expansionary or contractionary in its impact on the level of AD and economic activity. For example, a reduction in the size of the budget deficit between one year and the next, expressed as a ratio of GDP, would generally be seen as a relatively contractionary stance that would tend to slow AD and economic activity. However, a rise in the size of the budget deficit between one year and the next, expressed as a ratio of GDP, would usually be seen as a relatively expansionary stance that would tend to boost AD and economic activity.

Budget surplus represents a situation where the total value of government outlays is less than the total value of its receipts for a period of time. Budget surpluses occurred between 2006–07 and 2007–08. Larger surpluses may have a more contractionary effect on aggregate demand and hence on economic activity, and are suitable for

slowing inflationary booms. *See* aggregate demand management policies; automatic stabilisers; contractionary budget; discretionary stabilisers.

Budgetary policy (also called fiscal policy) is a macroeconomic or aggregate demand management strategy involving government's estimates of the expected value of its receipts (such as from personal income tax, company tax, customs duties, sales tax, capital gains and excise duties) and the expected value of its outlays (e.g. on social security and welfare, defence, health, education, housing, payments to the states, general public services and economic services), usually based on a one-year period. As an aggregate demand policy, budgetary policy is applied countercyclically to promote economic stability. During an inflationary boom, the budget outcome switches to a more contractionary surplus by the operation of automatic and discretionary rises in receipts and reductions in outlays. This slows aggregate demand, economic activity and inflation. However, during downswings or recessions, the budget switches to a more expansionary stance. Typically there is a budget deficit as a result of automatic and discretionary reductions in receipts and rises in outlays. This tends to lift aggregate demand and economic activity. The medium-term goal of recent budgetary policy is for a return to surplus in the next few years. *See* automatic stabilisers; discretionary stabilisers.

Building Australia Fund (BAF) is a special savings fund set up by the Australian government a few years ago using part of its budget surpluses as seed capital. It is designed to cover financial shortfalls in capital spending on nation building projects like national transport and broadband infrastructure.

Built-in stabilisers *See* automatic stabilisers.

Business and skilled migration programs have been an important part of the federal government's immigration policy for some years. These programs try to attract skilled migrants (including business people) to Australia to help cover the skills shortages and grow our productive capacity. This group now makes up around 65 to 70 per cent of all migrants.

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

Business concentration or market power occurs when businesses have used takeovers, mergers, integration and other devices to create monopolies and oligopolies, and where there is a high degree of economic power in the hands of a few (e.g. petrol, banking and water). High levels of business concentration can lead to inflation, exploitation and resource misallocation. *See* concentration of industry and ownership.

Business confidence is an aggregate demand-side factor and involves predictions made by business about the future trends in output and profits. If there is optimism and expectations are of rising sales and falling stocks of goods, business may well decide to expand output and investment, leading to increased AD and economic activity. In reverse, pessimism slows AD and economic activity.

Business cycle is the wave-like or cyclical pattern created by the various phases the level of domestic economic activity (measured by GDP) passes through over a period of time. Typically the phases include a period of expansion, peak (perhaps an inflationary boom), contraction and trough (perhaps a recession). The ideal level is to achieve domestic economic stability. As a result of variations in the level of activity, unemployment, inflation and even the CAD will change. *See* boom; economic activity; recession.

Business sector comprises different types of firms and enterprises producing goods and services.

Cap and trade scheme involves a 'cap' that represents the maximum annual emissions target. 'Trade' refers to the pollution permits that will need to be traded at prices to allow this cap to be achieved.

Capital deepening is a situation where the ratio of the stock of capital to population or the labour force is rising. Capital equipment available to each user is improving in quantity and quality, thus accelerating the growth of productivity and material living standards (in the long run).

Capital equipment is made up of plant and machinery to help producers make other goods and services. This is an important determinant of a nation's productive capacity. *See* capital

expenditure; capital, investment goods; capital resources.

Capital expenditure is spending on plant and equipment designed to satisfy a nation's future needs and wants. In Australia this is undertaken by both private individuals and companies, and by governments:

$$\text{Total capital expenditure} = \text{Private investment (I)} + \text{Government investment (G}_2\text{)}.$$

See capital, investment goods; capital equipment.

Capital gains tax is a direct tax levied on the gains or profits made from the sale of a capital asset, such as land or shares.

Capital inflow is the movement of money capital into a country from overseas sources in the form of non-official private inflow (direct or portfolio investment) or official government borrowing from abroad.

Capital-intensive method of production is a method of production which relies heavily on the substitution of machinery for labour in the production of goods and services.

Capital, investment goods is an input or resource used to assist labour that includes machinery, plant and equipment such as factories, dams, railways, hospital buildings, computers used in industry, roads, tractors and smelters for ores. These may be provided by either the private sector (I) or the government sector (G₂), and involve producer or investment goods help that satisfy future needs and wants by expanding a nation's productive capacity — that is, goods used to help produce other goods and services. *See* capital inflow.

Capital market is an institution where buyers (borrowers) and sellers (lenders) of money capital negotiate the price of capital, which is called the 'interest rate'. Institutions comprising this market in Australia include banks and non-bank financial institutions (NBFIs) such as building societies.

Capital resources (i.e. physical capital) are producer or investment goods (e.g. plant and equipment) that help lift productive capacity and make other labour and natural resources more productive or efficient. *See* capital, investment goods.

Capital widening is a situation where the ratio of capital to population or labour is falling. Capital equipment is spread out more thinly among its users, causing productivity and material living standards to rise less rapidly. *See* capital deepening.

Capitalism is private ownership of land, capital and the means of production (such as farms, mines, banks, factories and shops) where profits tend to dictate decisions made by owners of resources. This is dominant in countries such as Australia, the United States, Britain and Japan.

Capitalist economy *See* capitalism; market capitalist economy.

Carbon emissions permits *See* carbon emissions trading scheme.

Carbon emissions trading scheme puts a price on carbon emissions by allowing this to be decided by demand and supply for pollution permits in the carbon market.

Carbon leakage refers to the relocation of firms and industries from a country that has an emissions trading scheme or carbon tax to one where there are low or no restrictions on emissions.

Carbon tax was used in Australia between July 2012 and July 2014. It was an environmental policy that involved putting an indirect and regressive tax on large firms emitting carbon. By making emissions more expensive, it sought to change the behaviour of both producers and consumers who were encouraged to switch to cleaner and cheaper alternatives or substitutes like wind, solar, hydro and nuclear power on which there would be no carbon tax. *See* Direct Action climate change policy; emissions trading scheme (ETS).

Cash economy are the goods and services (e.g. performed by some tradespeople) that are produced and sold for cash, often outside official business records, to help minimise the payment of tax. The value of these items is usually not declared or included in official estimates of GDP.

Cash rate target is the RBA's announced level of interest rates set for the short-term money market. A change in the level of the cash rate target is taken as an indicator of a change in the stance for monetary policy. Official interest rates below about 2.0 per cent (which occurred between 2012–19) are typically seen as relatively expansionary, while rates above about 3 per cent

(e.g. 2005–08) are seen as relatively contractionary on the levels of AD and economic activity.

Cash welfare assistance is given by the government to the neediest individuals to allow them to purchase basic goods and services.

Centralised wage system is a method of fixing minimum wages and conditions by a government authority, the Fair Work Commission. This wage system has declined in popularity over the past 15–20 years, and nowadays covers only around 15 per cent of the labour force. Other employees are usually covered by decentralised enterprise agreements. *See* Fair Work Commission.

Chain price indexes measure the change in the prices of different types of goods and services (e.g. prices of household consumer items, private investment or capital goods, items of government expenditure, and items exported and imported) making up expenditure on GDP. These inflation indexes use a moving reference or base year as the basis of comparing prices and this base advances by one year, every year. Hence, the base year is the year immediately before the current year, and this is given a value equal to 100 index points. For example, the base year for 2018–19 chain price indexes is 2017–18. Chain price indexes are used to remove, statistically, the effects of price variations on the value of GDP so that it can be determined whether there has been a rise or fall in the actual volume of goods and services produced between one year and the next (called chain volume GDP).

Chain volume GDP *See* gross domestic product — the chain volume approach to measurement.

Checklist approach to inflation targeting by the RBA is the approach used by the RBA when it reviews its monetary policy stance or setting. This checklist may include the CPI and underlying measures of inflation, indicators of spending and retail sales, indicators of overseas economic activity, indicators of consumer and business confidence, trends in the Australian dollar and consideration of the stance of budgetary policy.

Circular flow model of an economy illustrates how the Australian economy works and how its different parts are interrelated. Additionally, it identifies some of the macroeconomic variables affecting our country's economic conditions.

Clean Energy Act (commenced in 2011 and abolished in 2014) was the cornerstone of the

federal Labor government's environmental policy and led to the implementation of a carbon tax between 2012 and 2014. The *original* Act involved taking a two-step approach towards the pricing of carbon emissions so that both the production and consumption of goods and services involving high emissions were discouraged. These two steps consisted of:

1. the introduction of a carbon tax from July 2012
2. the proposed transfer from a carbon tax to an emissions trading scheme from July 2015.

After its win, the Liberal Coalition abolished the carbon tax. *See* emissions trading scheme (ETS).

Clean floating (or free floating) **exchange rate** is where the exchange rate is determined at equilibrium by market forces of supply and demand for the Australian dollar in the absence of RBA interference in the foreign exchange market.

Climate change refers to unusual variations in average global temperatures and the distribution of rainfall. Most research suggests that global warming is connected with rising levels of economic activity and associated increases in CO₂ emissions due to the burning of fossil fuels.

Collective bargaining occurs when wages are negotiated directly between employees and employers without government interference. *See* decentralised wage fixing.

Collective goods and services or wants are outputs generally made available to the community by the government. Examples include roads, parks, schools and health, which are generally financed out of government revenue. *See* infrastructure.

Collusion occurs when companies get together to set prices and establish selling arrangements in a non-competitive way. A common aim of such action is to help companies sell at a higher price than would otherwise occur, thus raising profits. This is one type of illegal restrictive trade practice. *See* restrictive trade practices.

Commodity markets are institutions that involve the buying and selling of raw materials (such as minerals, wool, wheat, iron ore and oil) for use by businesses.

Commodity prices are the prices received according to demand and supply on world markets for goods such as grains, gold, beef, oil and natural gas.

Common access resources or goods are those things we all share and depend on like air, rivers

and oceans. Without government intervention, they tend to be overused and abused, since they are rivalrous and non-excludable.

Company tax is a flat or proportional tax levied directly on company profits (49% in 1987–88, 39% in 1988, 33% in 1993 and 36% in 1995). Between July 2000 and 2002, tax reform cut the rate from 36 to 30 per cent. More recently in July 2015, there was a reduction in the rate for small business (turnover less than \$2 million) to 28.5 per cent. Further reductions were announced in the 2016–17 and subsequent budgets, with the rate for small to medium-sized companies falling to 27.5 per cent in 2017, and then stepping down to 25 per cent by 2021–22. Even so, these rates are above the 24 per cent OECD average for similar sized economies.

Comparative cost advantage is the principle that a nation should specialise in those select areas of production in which it has the greatest cost advantage or least cost disadvantage. In so doing, opportunity costs should be minimised, efficiency in resource allocation enhanced and the gains in international trade maximised.

Compatible government goals are goals that enhance the achievement of another goal; for example, pursuing low inflation can enhance another goal, such as external stability. Such goals are regarded as consistent or compatible. The Australian government's goals include full employment, stable prices, external stability, rapid growth and an equitable distribution of personal incomes. For contrast, *see* conflicting government goals.

Compatible policies are policies that reinforce or help other policies in their pursuit of a particular government economic objective. For instance, a contractionary monetary stance with higher cash rates aimed at slowing demand inflation combines well with microeconomic efficiency reforms designed to cut cost inflation to help achieve the goal of low inflation.

Compatible relationships between policies occur when one policy is complementary or supports another policy to help achieve a particular government goal.

Competition occurs when one seller bids against another to keep prices down and quality up in an effort to attract customers.

Competition and Consumer Act See *Australian Competition and Consumer Act* (2010).

Competitive advantage occurs when a firm, industry or economy has a lower cost price structure than its rivals. In this situation, goods and services can be sold more cheaply, undercutting competitors, and expanding domestic and foreign sales. The concept can also be extended to product quality range and flexibility in adapting to new trends in the market.

Competitive markets are based on strong competition between buyers and sellers of goods and services. In such markets, competition keeps prices down. See market capitalist economy.

Complementary goods and services or products are those goods and services for which demands are linked in a positive way. For instance, a rise in the demand for tea may tend to cause a rise in the demands for milk, sugar and tea sets.

Composition of trade deals with the type of goods and services exported and imported. Australia's trade is composed of goods such as minerals and primary products.

Concentration of industry and ownership relates to the proportion of an industry's output controlled by a given number of firms. In the case of monopolies and oligopolies, the concentration is said to be high, whereas in purely market economies the concentration of industry should be low. See business concentration.

Conditions of demand at the microeconomic level are the non-price factors that affect the quantity of a good or service that buyers are prepared to purchase or demand at a given price. Conditions affecting demand include changes in tastes, fashions, the seasons, disposable income level, and the price and availability of substitute products. Changes in such factors would shift the position of the whole demand line and create a new demand line on a demand–supply diagram for a given product.

Conditions of supply at the microeconomic level are the non-price factors that affect the quantity of a good or service that producers are willing to make available at a given price. Conditions affecting supply include severe weather conditions (floods, drought, cyclones) for crops and other products, the availability of new technology for producers and changes in production costs like wages. Changes in such

factors would shift the position of the whole supply line and create a new supply line on a demand–supply diagram for a given product.

Conflicting government goals occur when implementing one economic goal reduces the chance of achieving another goal. For example, the pursuit of equitable income distribution may reduce the chance of achieving another goal, such as strong and sustainable economic growth (due to a possible trade-off with efficiency).

Conflicting policies undermine each other in the pursuit of a particular economic objective. For instance, in a recession, large budget deficits financed by local borrowing may put upward pressure on domestic interest rates and undermine efforts by the RBA to cut rates. In so doing, government spending is 'crowding out' private consumption and investment spending that is financed by the borrowing of credit. Another example is that large budget deficits financed by overseas borrowing tend to undermine policies designed to reduce the CAD.

Conflicting relationships between policies occur when the pursuit of one goal or policy undermines or contradicts the achievement of another policy in pursuing a particular government goal.

Constant prices are used to give a more accurate and useful impression of real changes in a variable after removing the exaggerations caused by the effects of inflation. Many indicators (such as GDP, national income and government expenditures) are expressed in terms of constant prices. Generally, using constant prices involves the recalculation of figures in terms of those applying in some representative base year.

Constraints on policy action are factors that restrict or reduce the effectiveness of a government economic measure. They include political, social, institutional, overseas and economic constraints.

Consumer is an individual, organisation or group that gains satisfaction from buying goods and services.

Consumer behaviour looks at why, how, where and when consumers choose to purchase or not purchase a good or service. Traditionally, it was thought that consumers behave rationally and make informed economic decisions that

maximise their pleasure and minimise pain. However, more recent research by behavioural economists has shown that this is not always the case. Some suggest that ‘bounded rationalism’ is a more appropriate description, where consumers lack time and access to knowledge to make every decision in a rational way. Instead, they sometimes take short cuts by following the mob (herd behaviour) or sticking to the status quo.

Consumer confidence refers to the psychological state or attitude of private individuals or householders about their future income, employment and unemployment prospects, and expectations about trends in prices. This is an aggregate demand-side factor in the economy. Whether people are generally feeling optimistic or pessimistic in the short to medium term affects private consumption spending (C) involving major purchases (such as the purchase of a new house, car or TV) in the coming period of time.

Consumer goods and services are production that satisfies our immediate needs (such as food, shelter and clothing) and wants (e.g. luxuries). These goods may be single-use, such as food, or of a durable or lasting type, such as a car.

Consumer price index (CPI) is an indicator of average changes in retail prices for those 80 000 goods and services that represent a high proportion of the expenditure for typical Australian metropolitan households. Included in the regimen or basket of goods and services surveyed by the ABS are food, clothing, household equipment and operation, housing, transport, tobacco and alcohol, health and personal care, and recreation and education. Each item is ‘weighted’ to reflect its relative importance. Since the measure is expressed as an index, the average cost of this weighted basket is measured in terms of prices in a base year, such as 2011–12, which is made equal to 100 points.

Consumer sovereignty is the ability of the consumer in a competitive market economy to direct or allocate resources. Producers must simply respond to the ‘dollar votes’ cast by consumers or go bankrupt. The opposite approach is to have government sovereignty.

Consumption spending is expenditure designed to satisfy immediate needs and wants. It consists of private household consumption (C) and

government consumption (G_1) spending on goods and services.

Contemporary market capitalist economy is a modern-day market economy where decisions essentially made by market forces or the price mechanism are modified by government guidance, unions, advertising and business. In such an economy (e.g. Australia, the United Kingdom, the United States, Japan, Canada, New Zealand and Germany) the conditions required for pure competition are, hence, not entirely met.

Contraction is a downturn phase of the business cycle associated with rising unemployment, slowing output levels, often lower inflation, and a stronger current account and exchange rate (as occurred in 2008–09, with slower economic activity recorded generally through 2012–19). A contraction may lead to a recession or depression if it is sufficiently severe. It is usually caused by a drop in aggregate demand. In response, governments often use more expansionary aggregate demand policies to help lift AD and reduce the severity of the slowdown.

Contractionary budget is a budget where the government deliberately slows aggregate demand by a fall in the value of its proposed outlays relative to its receipts. Typically, a rise in the size of a budget surplus is seen as contractionary (e.g. 2006–08), but a reduction in the size of the budget deficit as seen between 2016–17 and 2018–19 might also be seen as mildly contractionary (or less expansionary). *See* budget surplus; contractionary monetary policy stance.

Contractionary monetary policy stance is used to slow or reduce aggregate demand, economic activity and the volume of money. The Reserve Bank may attempt this through, for example, higher interest rates (which occurred in 2009–11) brought about by increased net sales of government securities and pushing up the exchange rate. Such a policy may be appropriate for dealing with booms and rapid demand inflation.

Corporatisation occurs when government business enterprises (GBEs) are expected to be run along the lines of private companies — to be fully accountable for expenditures, to pay tax, to seek profit maximisation and to raise efficiency.

This has been a feature of recent microeconomic reforms in the public sector.

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

Cost inflation occurs when rising costs of production (such as wages, salaries, profits, rents, interest rates, the cost of imported inputs, and government charges and taxes) cause prices to be increased so that firms can protect their profits. Unlike demand inflation, this may occur even under conditions of quite high unemployment. Cost inflation is sometimes termed ‘cost-push’ inflation.

Costs of production are the costs involved in producing goods and services, such as wages for labour, interest paid on borrowed capital, imported materials and equipment, and rent paid on property. The final price at which a good or service sells will partly reflect how much it costs to produce. Rising production costs can cause the aggregate supply line to shift inwards if such rises erode the profit margins of firms. This causes the economy to reach equilibrium at a higher level of prices and a lower level of output. *See* aggregate supply policies; microeconomic reforms.

Council of Australian Governments (COAG) is a meeting between the federal and state governments held annually to discuss matters of finance and common policy including measures to promote greater competition and efficiency. It is attended by the prime minister and state premiers. *See* national competition policy (NCP).

Countercyclical budgetary policies are those government aggregate demand budgetary and monetary policies designed to help iron out or reduce the severity of inflationary booms and recessions; that is, they are used to make the business cycle less severe. Keynesian economic theory suggested that during slowdowns or recessions, expansionary budget deficits (e.g. tax cuts and rises in outlays) typically should be used to boost aggregate demand. However, during

inflationary booms, aggregate demand should be slowed using contractionary budgetary measures (e.g. higher taxes and lower outlays leading to bigger budget surpluses). *See* aggregate demand management policies; automatic stabilisers; budgetary policy.

Countercyclical monetary policy means that the RBA uses interest rates to stabilise AD and economic activity. Hence, during a slowdown, the RBA will cut interest rates to increase AD and lift economic activity, but raise interest rates during an inflationary upturn or boom to slow AD and control inflation.

CPI *See* consumer price index.

Credits are money received from overseas for exports of goods and services, primary incomes, secondary incomes and capital inflow. Credits are regarded as a positive item or receipt on Australia’s balance of payments account.

Crowding-in theory is when the federal government runs large contractionary budget surpluses that increase the level of public sector savings. This tends to put downward pressure on domestic interest rates at a time when the RBA may want to push up the cash rate target. If this occurs, the two policies tend to be contradictory in their impact on the levels of AD and economic activity.

Crowding out suggests that there may be a clash during a recession or slowdown between large, expansionary budget deficits financed locally to increase aggregate demand, and an expansionary monetary policy designed to bring down interest rates to raise aggregate demand. When the government borrows locally, the demand for and price of credit tends to rise (higher interest rates), depriving the private sector of access to funds to finance consumption and investment. This upward pressure on interest rates caused by the budget tends to make the RBA’s efforts to lower interest rates less effective. Stabilisation policy thus becomes less effective.

Current account *See* balance of payments account.

Current account deficit (CAD) is where the total value of current payments (debits) for goods, services, primary incomes and secondary incomes exceeds the total value of equivalent receipts (credits). This is typically the situation for Australia.

Current expenditure *See* consumer goods and services; consumption spending.

Current spending *See* consumer goods and services; consumption spending.

Current transactions involve credits and debits for merchandise, services, primary incomes and secondary incomes involved in international transactions. *See* balance of payments account.

Cyclical budget deficit occurs when there is a slowdown in the level of economic activity which causes budget receipts to automatically rise and outlays to fall. *See* automatic stabilisers.

Cyclical cause of changes in economic growth refers to how the rate of economic growth rises and falls cyclically with the level of spending or AD, in response to changes in aggregate demand conditions that affect total spending. This causes booms and recessions. *See* boom; business cycle; recession

Cyclical cause of inflation refers to how, during an upswing in the business cycle, there is often a cyclical increase in the inflation rate caused by the pressure of rising spending and widespread shortages of goods and services because there is no (or limited) unused capacity available to permit an increase in production. This represents demand inflation. *See* boom; demand inflation.

Cyclical causes of inequity in income distribution refers to how both unemployment and inflation can lead to reduced equity or access to basic goods and services for some individuals. Unemployment lowers incomes and purchasing power, and causes wealth to be run down. Inflation makes basic goods and services less affordable for those whose incomes rise more slowly than inflation.

Cyclical current account deficit (CAD) refers to how, when there is a rise in the CAD:GDP ratio (perhaps an increase from 3 to 6 per cent) resulting from a periodic rise in the level of economic activity, the cause is a cyclical rise in spending on imports and a reduction in the level of our exportable surplus.

Cyclical unemployment is unemployment caused when there is not enough aggregate demand (due to weakened demand-side conditions), as occurs during and following slowdowns or recessions (e.g. 2012–19) and depressions (1929–33). In recent times, cyclical unemployment typically exists when the overall unemployment rate is

above perhaps 4–5 per cent. Governments try to minimise this type of unemployment in their quest to achieve the goal of full employment. They do this using expansionary macroeconomic budgetary and monetary policies to accelerate or lift the level of aggregate demand. This causes firms to grow their output and employ more staff, lowering cyclical unemployment.

Debits (or payments to foreigners) on Australia's balance of payments account are imports of merchandise and services, primary incomes, secondary incomes and capital outflow. *See* balance of payments account.

Debt repayment is a burden and involves not only paying regular interest, but also returning the original amount of money or principal borrowed.

Decentralised wage fixing is a system where wages and working conditions applicable to employees are decided by negotiations on a firm-by-firm basis (enterprise level), as opposed to being set uniformly by some central government institution, such as the Fair Work Commission. Decentralisation in wage fixing has been extended since 1991, when enterprise bargaining was officially sanctioned. By early 2018, various enterprise agreements covered around 85 per cent of all employees. *See* *Work Choices Act*; *Forward with Fairness Policy*; *Fair Work Act*; *Fair Work Amendment Act*.

Decision makers are the institutions that make decisions about the economic questions involving resource allocation, production methods and income distribution. Each country has a unique combination of institutions for making decisions. In Australia, important decision makers include the consumer operating in the marketplace, governments, unions, business monopolies and oligopolies, advertising, pressure groups and traditions. However, the relative importance of each varies from country to country and from time to time.

Deficit budget *See* budget deficit; expansionary budget; government borrowing.

Deficit on the balance of payments *See* balance of payments account.

Deficit on the balance of payments current account is when the value of total debits exceeds the value of total credits for goods, services, primary incomes and secondary incomes in

international transactions. *See* balance of payments account.

Deflation is a term describing generally falling prices over a period of time. It can happen in recessions.

Deflationary or contractionary budget is a budget that generally increases total government receipts relative to total outlays to reduce the level of aggregate demand, economic activity and demand inflation. Such a budget may be appropriate during booms and periods of demand inflation.

Demand is a need or want of consumers expressed by the spending of income. More specifically, demand is the quantity of a particular good or service that is purchased at a given price. Demand for a particular commodity decreases as the price increases (an inverse relationship). *See* law of demand.

Demand curve or line shows that the demand for a product varies inversely with price. It illustrates the law of demand. For instance, a rise in price causes the quantity demanded to contract, while a fall in price causes it to expand. This gives the line a negative slope down and to the right. Movements 'along' the demand line are caused by changes in price. *See* demand.

Demand inflation occurs when general prices rise because spending or aggregate demand runs ahead of production or aggregate supply in an economy with full employment or little unused productive capacity available in the economy. There are widespread shortages of goods and services. Rising prices act as a safety valve to ration out scarce goods and services among competing buyers. Demand inflation mainly occurs when aggregate demand expands quickly under conditions where resources are already fully employed or utilised.

Demand management policies *See* aggregate demand management policies; budgetary policy; countercyclical budgetary policies; macroeconomic policy; monetary policy.

Demand-side factors or conditions at the macroeconomic level are the influences on the total level of expenditure or aggregate demand (the things that affect the level of AD, consisting of C, I, G and net X). Examples of demand-side factors include consumer confidence, business confidence, interest rates, the budget outcome, the Australian dollar, terms of trade and overseas

economic conditions. By changing the growth of AD, the levels of sales, stocks and production alter accordingly. *See* aggregate demand factors or conditions.

Demand-side theory was developed by economist, John Maynard Keynes. It attributes changes in a nation's economic activity, production, employment and prices to changes in the level of aggregate demand or total spending. Here spending on locally made goods and services ($C + I + G + X - M$) responds to changes in aggregate demand-side factors such as changes in disposable income, savings ratios, interest rates, the terms of trade, the exchange rate, consumer confidence, business confidence, government policy and overseas economic activity.

Demand–supply diagram are used in the study of microeconomics and illustrate the behaviour of buyers and sellers of a particular good or service in a market and how prices are determined.

Demerit goods are those where their production and/or consumption result in negative externalities that lower the general wellbeing of society (e.g. pollution caused by the production and consumption of brown coal generated electricity).

Democracy is a transparent political system that allows ordinary people to have a free choice, every few years, of who represents them in parliament.

Demographic change involves trends in a nation's population size and aspects of its distribution measured over a period of time.

Demography is the study of population. It might include looking at Australia's population distribution, the birth and death rates, and the immigration and emigration rates.

Depreciation of the exchange rate occurs when the currency of a country may be exchanged for less of another currency than previously. It is caused by a decrease in the demand for the currency relative to its supply in the foreign exchange market. For example, exchange rate before depreciation: $A\$100 = US\$100$; exchange rate after depreciation: $A\$100 = US\$80$. This causes a nation's exports to become relatively cheaper overseas, while imports become more expensive.

Depression is a large economic downturn, such as those that occurred in 1889–93 and 1929–33, caused by a significant fall in the level of

aggregate demand. This results in large cutbacks in production, in turn resulting in high levels of unemployment and on occasions falling prices.

Deregulation is the reduction of unnecessary, direct government controls, restrictions and supervision in various areas of the economy. In Australia between the 1980s and 2010s, there were moves to deregulate aspects of the economy such as the capital markets; along with other markets for labour, telecommunications, airlines, ports and shipping, water, power, primary produce and retail. This is regarded as part of microeconomic policy.

Deregulation of the financial system involves removing unnecessary government restrictions and other impediments to efficiency by creating a more competitive financial system. Since the 2008–09 global financial crisis (GFC), there has been some re-regulation to make the system more robust in the face of external shocks.

Deregulation of the labour market is when the government reduces its controls over wage levels and working conditions. In particular, rather than having direct and nationally uniform, government regulation of wages and working conditions, there is increased reliance on firm by firm, enterprise bargaining. Here changes in wages and conditions more closely reflect changes in worker productivity and the value of work as determined by a firm's particular demand and supply conditions.

Derived demand is when a resource is only wanted when another good or service is purchased that uses that resource as an input for its production.

Development is nowadays seen as the economic, social, political and institutional changes needed in low-income countries to improve material and non-material elements affecting the quality of daily life.

Development economics uses economic theory to come up with practical strategies and policies designed to increase development and improve the overall living standards of people in low-income nations.

Direct Action climate change policy is the Coalition government's carbon pollution reduction measure used since 2014 and designed to help alleviate climate change. It involves two main parts:

1. There will be *financial incentives* for firms to reduce their emissions. This is centred on a \$2.5 billion emissions reduction fund (ERF). In 2019, an additional \$2 billion was added to the fund and the name re-badged. It is now called the Climate Solutions Fund or CSF. It seeks to encourage firms to bid for money under a reverse auction process in which the lowest cost applications for maximum emissions reductions will win grants — from projects for increasing energy efficiency in manufacturing and buildings, to planting trees.
2. Businesses are required to have *emissions below a current set baseline* from 2016.

Direct benefits include the income supplements or cash transfers paid by governments to the neediest individuals through social welfare (e.g. the dole, payments to the unemployed, sick, aged and families). These are usually means or assets tested to target the neediest in the community and to reduce the cost to taxpayers. They reduce the income gap between high- and low-paid individuals. They also increase the disposable income of recipients so they can better afford to purchase basic goods and services.

Direct investment is foreign capital inflow used to establish or expand business operations. For example, Alcoa Australia relied on investment funds from the United States to expand its plant and equipment. Australian residents and companies may also undertake direct investment overseas. Foreign investment is initially recorded on the financial account of the balance of payments, but income payments abroad are recorded on the balance of payments current account.

Direct taxes are revenue measures levied directly on income recipients as a proportion of their income; for example, personal income tax (PAYG), capital gains tax and company tax.

Direction of international transactions refers to the countries with whom Australia exchanges goods, services and money capital.

Dirty floating exchange rate occurs in the foreign exchange market when the RBA becomes a net buyer or net seller of the Australian dollar with the intention of lifting or depressing the exchange rate.

Discretionary stabilisers (also called structural stabilisers) are aspects of tax and outlays in the budget that are *deliberately* changed through a decision announced by the treasurer. Sometimes they are used to help iron out fluctuations in aggregate demand and economic activity. These can reinforce the operation of automatic stabilisers. For instance, in a prolonged and severe downturn or recession, the treasurer may decide to reduce marginal tax rates and/or increase particular government outlays (such as increased spending on infrastructure projects and special one-off payments to households) to help boost AD and economic activity. Unlike automatic stabilisers (that operate quickly on AD without significant time lags), discretionary stabilisers need to be deliberately altered and announced, often making the implementation and impact time lags quite long, especially in the case of national infrastructure projects. For contrast, *see* automatic stabilisers.

Disguised unemployment *See* underemployment.

Disposable income is income available for spending after the receipt of welfare benefits and deduction of personal taxes. This is a major determinant of the level of private consumption spending (C) and imports (M) and hence is a demand-side factor.

Distribution of income *See* income distribution.

Distribution of the population refers to the way our people are spread between different age groups, genders, ethnic backgrounds, states and regions.

Dole is the unemployment benefit paid by the government. *See* welfare benefits.

Domestic economic stability is an ideal internal situation for an economy where there is the simultaneous achievement of three government economic goals, namely:

1. strong and sustainable economic growth (GDP growing by an average of around 3 per cent a year)
2. low inflation (average inflation of between 2–3 per cent a year over time)
3. full employment (an unemployment rate currently around 4.5–5.0 per cent of the labour force).

While one of these three preconditions was fairly well met between 2012–19 (low inflation), the

problem was weak economic growth and rising or high unemployment.

Domestic macroeconomic goals relate to the achievement of Australia's three main internal objectives- strong and sustainable economic growth (perhaps with GDP growing by an average of around 3 per cent a year), low inflation (where general consumer prices are rising by around 2–3 per cent on average per year) and full employment (where the unemployment rate is low, perhaps somewhere between 4.5–5.0 per cent of the labour force). The achievement of domestic economic stability, creates conditions optimal for improved material and non-material living standards.

Dumping refers to the actions of an overseas competitor who sells a good below its cost price, thus damaging local producers. This is regarded as unfair competition.

Duration of unemployment shows the average number of weeks spent by the unemployed before work is found.

Dynamic efficiency entails firms being adaptive and creative in response to changing economic circumstances. This may mean using the latest technology, upgrading employee skills and incentives to work more efficiently, undertaking market research and product development, and encouraging firms to be innovative in their products so that they better meet the changing tastes of consumers. *See* efficiency.

Earned income is a reward for labour's contribution towards production. Its most common form is wages.

Earnings generally include wages, salaries and special allowances paid to labour.

E-commerce market is where firms register on and use the internet to buy and sell goods and/or services.

Economic activity relates to the activities of individuals, firms and governments that involve the production of goods and services. Changes in the level of economic activity affect the rates of economic growth, unemployment, incomes and inflation. The level of economic activity relates to the state or pace at which the economy is operating; it may experience boom (which perhaps occurred in 2007–08), recession (e.g. in

1990–91 to 1991–92, almost in 2008–09, with a slowdown in 2013–19), depression (1929–33), internal stability (perhaps in 2002–03, 2005–06 and 2011–12) or stagflation (such as in 1982–83). For example, a very high level of economic activity is often indicated by overfull employment (unemployment less than the NAIRU of around 4.5–5.0 per cent), unsustainably fast economic growth in GDP (above, perhaps, 4 per cent), rapid inflation (above, perhaps, 3 per cent) and a large current account deficit. *See* boom; depression; Keynes, John Maynard; recession; stagflation.

Economic balance or stability is the ideal level of domestic economic activity — neither too strong, causing demand or cost inflation, nor too weak, leading to cyclical unemployment. In other words, simultaneously there is low inflation, strong economic growth and full employment (as perhaps during 2005–07 and 2011–12).

Economic choices involve decisions made by individuals, firms and/or governments about which needs and wants to satisfy, and what types of goods and services to produce and buy. Choices arise because of the economic problem of scarcity.

Economic efficiency means that resources are used to produce particular goods and services that maximise the general satisfaction of society's needs and wants, and wellbeing.

Economic globalisation *See* globalisation.

Economic goals of the Australian government are used as a means for improving general living standards. Currently the federal government has five main economic goals (although these may change in importance over time):

1. *Goal of low inflation* (also called price stability), where rapid inflation is avoided and kept within the annual average target of 2–3 per cent over time. These rates should normally help to ensure that other economic goals of government, such as price and external stability, equity in the distribution of income, long-term economic and employment growth, are not jeopardised or undermined.
2. *Goal of strong and sustainable economic growth*, where the annual volume of goods and services produced by the nation rises at a steady rate, perhaps averaging around 3 per cent over the economic cycle as indicated by the annual rise in real GDP. This target is set at

a *sustainable* level that should not jeopardise the achievement of other goals including low inflation and external stability. Rates above this target band are likely to worsen the CAD, unduly damage the natural environment and cause faster inflation, while lower rates may cause higher unemployment and reduced equity.

3. *Goal of full employment*, where cyclical unemployment associated with weak expenditure and recession is avoided, but where a fairly low level of natural unemployment is tolerated. The acceptable target unemployment rate is currently around 4.5–5.0 per cent of the labour force since at this level other goals (e.g. low inflation) are not undermined. Experience in 2007–08 showed that although unemployment rates lower than about 4.5–5.0 per cent (down to 3.9 per cent in February 2008) may be possible for a time, inflation soon starts to accelerate.
4. *Goal of external stability*, where Australia 'pays its way' in its international trade and financial dealings, and is internationally competitive. Specifically, achieving this goal may involve *three* things: first, an unsustainably large CAD:GDP ratio greater than perhaps the 3–4 per cent target range should be avoided; second, the dollar should retain its value or purchasing power, and erratic and uninformed swings (especially long-term depreciations) in the exchange rate should be avoided; and third, an unsustainably large and unproductive net foreign debt (NFD) and its associated heavy burden of debt servicing should be avoided.
5. *Goal of an equitable distribution of personal income*, where everyone has access to the basic goods and services needed to avoid poverty and maintain basic material living standards at a level deemed generally acceptable to society. It does not imply that there should be equality, but that there should be a *fair* final distribution of income.

See individual listings for each goal.

Economic growth occurs when a nation increases the volume (real value) of goods and services produced over a period of time. The most commonly used general measure of this is the annual rate of growth in real GDP, but this

measure has weaknesses. With this in mind, other indicators have been proposed. One of the government's economic goals in Australia is to promote a strong and sustainable (economically and environmentally) rate of growth in annual output averaging around a 3 per cent rise in GDP, because this helps to generate jobs, improves material welfare and eases social tensions. Nevertheless, it can also result in negative externalities such as pollution and reduced leisure. *See* goal of strong and sustainable economic growth.

Economic infrastructure involves the provision of capital equipment, such as roads, railways, telecommunications and water supply, often by governments, that is mainly used collectively by firms to produce other goods and services. Improved infrastructure is regarded as a favourable aggregate supply factor, but spending on infrastructure will also strengthen AD.

Economic instability is a term used to describe an unfavourable internal or external state of the economy when it experiences inflation, cyclical unemployment, or a weakening current account or exchange rate. This may include conditions such as an inflationary boom (which perhaps occurred in 2007–08), recession (which almost occurred in 2008–09), depression, and stagflation. *See* boom; depression; external stability; internal stability; recession; stagflation.

Economic management occurs when the government attempts to regulate or improve three key areas of the economy. This involves the government using aggregate demand and aggregate supply policies designed to help promote:

1. domestic economic stability (the simultaneous achievement of the goals of low inflation, strong and sustainable economic growth and full employment)
 2. external stability
 3. an equitable distribution of personal income.
- The ultimate aim of promoting these goals is to improve living standards for Australians.

Economic or market power is the capacity to influence the economic outcomes in decision making. When there are monopolies and oligopolies, high market concentration means that some firms are price makers. *See* business concentration; decision makers.

Economic policies are measures or strategies used by the government to pursue economic and other goals. These include two main categories:

1. aggregate demand management or macroeconomic budgetary policy and monetary policy
2. aggregate supply management policies including microeconomic reforms, aspects of budgetary policy, immigration policies and environmental policies.

Economic problem is the problem of relative scarcity that faces all nations where needs and wants are unlimited relative to scarce or limited resources. *See* scarcity.

Economic prosperity is taken to mean having high incomes per person and being able to consume or purchase more goods and services.

Economic stabilisation is the process of deliberately using selected government aggregate demand policies (budgetary and monetary policies), applied in a countercyclical way, to help iron out cyclical or short-term fluctuations in the level of economic activity. This means that these policies become more contractionary when AD and economic activity are too strong, and expansionary when they are too weak. *See* economic stability.

Economic stability is the avoidance of rapid inflation (booms) or high unemployment and falling production (recession or depression). *See* economic activity; economic balance or stability.

Economic system is a collection of institutions involved in directing and organising the production and distribution of goods, services and incomes in an economy. There are various ways of classifying economic systems. One is to identify four main types:

1. market capitalist economies
2. market socialist economies
3. planned capitalist economies
4. planned socialist economies.

More specifically, the economic system answers three important questions: (1) 'what and how much to produce', (2) 'how to produce', and (3) 'for whom to produce'.

Economic systems diagram illustrates the types of decision-making system and ownership system used by different countries.

Economic theory describes the beliefs and tentative predictions in explaining economic relationships

and conditions such as booms and recessions. There are the theories of economists such as J.M. Keynes, J.K. Galbraith, M. Friedman, A. Laffer and A. Smith. *See* Keynes, John Maynard.

Economic welfare or wellbeing involves the level of material wellbeing of individuals as related to the quantities of goods and services at their disposal. One commonly used although rather rough indicator of the average level of national economic welfare is:

$$\text{Average economic welfare (\$)} = \frac{\text{Real GDP (\$)}}{\text{Total population size}}$$

See standard of living.

Economics is a social science that studies how to use our limited resources in ways that help to make individuals and society better off materially, so that current and future living standards can be increased.

Economies of large-scale production occur when larger firms produce goods and services more cheaply than smaller ones. Economies of large scale are the reductions in average per-unit costs of production as a firm grows its annual production volumes. Here, costs, such as advertising, raw materials, management, product development and research, and some equipment can be spread more thinly over larger volumes.

Economists are practitioners of the study of economics, which involves identifying an issue or problem, collecting data or facts and observations, drawing out generalisations and theories, and making policy recommendations. *See* economic theory; Keynes, John Maynard.

Economy *See* economic system.

Education Investment Fund is a special fund set up by the federal government using part of the budget surplus to help finance capital spending for tertiary institutions.

EEC or EC *See* European Economic Community or European Union.

Efficiency can be equated with productivity of resources or the value of goods and services produced per year per unit of input or resources used. There are *four* main types of efficiency:

1. *allocative efficiency*, ensuring that resources are used for producing the type of output that best satisfies society's needs and wants
2. *productive (technical) efficiency*, using the lowest-cost method of production by

employing 'best practice' and minimising the resources used

3. *intertemporal efficiency*, where there is an optimum allocation of resources between their use for current consumption and future investment
4. *dynamic efficiency*, so that staff and firms become adaptive and innovative in production, and apply the best technology available.

Efficient allocation of resources occurs when productive inputs are used in a way that maximises the satisfaction of society's needs and wants. When resources are allocated efficiently, it is not possible to lift national output (GDP) further by changing the way resources are used. Allocating resources to areas of comparative cost advantage also helps to satisfy more wants by maximising efficiency and production and minimising opportunity costs.

Elastic describes the demand or supply of a product that is relatively responsive to changes in its price. *See* elasticity.

Elasticity is the measure of responsiveness of the supply of, or demand for, a product to price changes. *See* elastic.

Embargo is a ban on the trade of certain goods, services or movements of capital.

Emissions trading scheme (ETS) is designed to help reduce greenhouse gas emissions. Essentially, the cost of each tonne of carbon dioxide (or other gases) would be established in a carbon emissions market at equilibrium by the forces of demand (from buyers) and supply (from sellers). Those wanting to pollute would need to purchase a sufficient quantity of carbon emissions permits at the going market price (e.g. around \$12 for each one-tonne permit) from those whose low-polluting economic activities generated a surplus of permits. The aim of the scheme is to put a price or cost on carbon emissions, thereby converting a business externality into an internality where businesses and/or consumers of products must bear the cost. This then causes producers and consumers to change their behaviour to reduce emissions. Prior to the election in 2013 and the abolition of the carbon tax from July 2014, the initial intention was for Australia to switch from a carbon tax to an ETS in 2015. *See* carbon tax; Garnaut climate change review.

Employed persons are those aged over 15 who have jobs and work for money.

Employment involves those members of the labour force with paid jobs who work for more than one hour per week. The exception occurs in the case of family members working without pay in the family business for 15 or more hours per week (these people are also regarded as employed).

Enterprise bargaining is a system where wages and working conditions are negotiated between workers and the employer at each individual workplace. This system was introduced in the early 1990s as part of the deregulation of the labour market and is now widely used. It represents a government aggregate supply policy designed to help boost productive capacity and the potential rate of economic growth by increasing flexibility for businesses and workers to negotiate wages on a firm-by-firm basis that better reflects an employee's efficiency, value or worth.

Entrepreneur is a person who has business managerial skills — one who is prepared to take risks and organise production processes, such as Kerry Stokes, Janet Holmes à Court and Rupert Murdoch.

Environmental footprint is how human activity impacts on the natural environment; for example, CO₂ emissions, waste disposal, water and energy consumption, global warming and resource depletion.

Environmental policies are aggregate supply-side government measures designed to reduce environmental damage; for example, schemes to reduce and/or tax carbon emissions; solar cities project; renewable energy targets; Murray–Darling Basin Plan; Direct Action climate change policy.

Environmental resources include the gifts of nature like clean air, stable climatic conditions, unpolluted oceans (stocked with fish) and a healthy stratosphere. Environmental resources are communally used and belong to no particular nation. Since they are nobody's to own or sell, they are viewed as being free goods. Because of this, they often have no market price to act as a barometer of their relative scarcity. This makes them different from, say, scarce minerals, which can be readily sold and for which market prices rise to reflect their increasing scarcity.

Environmental sustainability means that increasing economic prosperity can be continued indefinitely into the future.

Equilibrium is a resting point where the forces of supply and demand are equally matched, and where the market is 'cleared' and agreement is reached between buyers and sellers of goods and services. The price at which this takes place is called the 'equilibrium price' and the volume involved is called the 'equilibrium quantity' (the quantity supplied exactly equals the quantity demanded so there is neither a glut nor shortage).

Equilibrium price *See* equilibrium.

Equilibrium quantity *See* equilibrium.

Equity in the distribution of income as a government goal is one of the federal government's goals. It is where everyone has access to the basic goods and services needed to avoid absolute poverty and to guarantee basic material living standards at a level deemed generally acceptable to society. It does not imply that there should be equality, but that there should be a *fair* final distribution of personal income. Government policies used to pursue this goal include progressive taxes, welfare benefits or income support, provision of affordable government services and maintaining the minimum wage.

Equivalence scales are used to make adjustments to the incomes of individuals to reflect differences in the personal circumstances of various types of income units; for example, a single person; a couple without children.

Equivalised disposable income is the level of income from private sources (such as wages) and welfare after payment of personal income tax and special adjustments to reflect family circumstances (e.g. family size and age). *See* disposable income.

Ethical issues are related to personal attitudes and values about what is seen as right or wrong, good or bad, desirable or undesirable.

European Economic Community (EEC) or European Union (EU) was established in 1957 and was designed to promote free trade (without tariffs) between member countries, which include Italy, the United Kingdom, Germany, France, Austria, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Malta, Finland, Greece, Hungary, Ireland, Latvia,

Lithuania, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden and Belgium. In more recent times, new countries have been invited to join. In 1999, a common currency unit called the euro was launched. This move simplified trade. In 2002 and 2009, membership of the group was expanded.

Exchange rate is the rate at which one nation's currency is exchanged or swapped for that of another. For example, in March 2014 and March 2019, the following exchange rates applied to the Australian dollar:

	March 2014	March 2019
A\$1 =	0.89 US dollars	US\$0.69
A\$1 =	0.53 Pounds sterling	£0.54
A\$1 =	90.39 Yen	78.02¥
A\$1 =	0.65 Euro	0.63€

The exchange rate affects the relative attractiveness of foreign transactions recorded on the balance of payments account. Prior to 12 December 1983, Australia's exchange rate was 'fixed' or set by the Reserve Bank and was seldom changed. Since then, Australia has had a floating or flexible exchange rate. Under this system, the forces of supply relative to demand for a nation's currency in the market for foreign exchange have primarily decided the exchange rate.

Excise tax is an indirect tax levied on selected goods such as alcohol, tobacco and petrol. Increasing this lifts the price of excised goods, and alters resource allocation and government revenue.

Expansion is a period in which levels of national production and employment are rising (e.g. 2009–10 to 2011–12).

Expansionary budget is a budget where the government increases aggregate demand by a rise in the value of its outlays relative to its receipts (e.g. 2008–09, 2009–10 and 2013–14). A bigger budget deficit as a percentage of GDP (compared with the previous year) is usually seen as more expansionary, while a reduction in the deficit could be seen as less expansionary. *See* budget deficit; expansionary policy.

Expansionary monetary policy is when the Reserve Bank attempts to expand aggregate demand through cuts in official interest rates to low levels (e.g. 2012–19) or open market

operations involving the buying back of government securities, or moves to bring about a depreciation of the exchange rate. Such actions may be appropriate for dealing with severe recessions and unemployment. *See* monetary policy.

Expansionary policy is typically used during a slowdown or recession when the government deliberately attempts to accelerate the growth of aggregate demand to stimulate economic activity and reduce cyclical unemployment. Expansionary aggregate demand policies might include bigger budget deficits (such as occurred in 2008–10 and 2013–14), along with RBA cuts in official interest rates (a loose monetary policy stance as during 2016–19). *See* expansionary budget; expansionary monetary policy.

Expenditure is an alternative word for 'spending' or 'demand'. In the short term, this is a major determinant of the level of economic activity. Expenditure on $GDP = (C + I) + (G_1 + G_2) + (X - M)$. *See* aggregate demand.

Export price index is a measure of changes in the average prices received for important exports.

Export spending (X) represents expenditure by people overseas on Australian-made goods and services, which is designed to help satisfy their needs and wants (e.g. wool, minerals, travel).

Exports are goods and services sold to overseas countries. These are regarded as credit or receipts on the balance of payments current account.

External balance *See* external stability.

External stability is a government goal where Australia is internationally competitive and 'pays its way' in its international trade and financial dealings, without the onset of adverse developments. External stability or viability involves *avoiding* three things:

1. a large CAD:GDP ratio (perhaps above 3–4 per cent as a rough guide)
2. erratic and uninformed swings (especially long-term depreciations) in the exchange rate
3. an unsustainably large and unproductive net foreign debt (NFD) and its associated heavy burden of debt servicing (indicated by the ratio of debt servicing to exports).

Externalities are positive benefits or negative costs passed on to third parties not directly involved in

the production or consumption of particular types of goods or services. *See* negative externalities.

Factor income is a reward paid to factors of production for supplying resources to firms.

Factor markets are institutions where various resources or factors of production are bought and sold at a price that reflects their relative scarcity.

Factors of production *See* resources.

Fair or equitable distribution of income *See* assets test; equity in the distribution of income as a government goal; income distribution; means test; poverty; progressive taxes; social services or security.

Fair Work Act (2009) modified the more severe aspects of Work Choices by strengthening unfair dismissal provisions, protecting minimum working conditions through reapplying the better-off test and making new Australian workplace agreements (AWAs) illegal.

Fair Work Amendment Act (2012) sought to improve bargaining and workplace flexibility, and also renamed Fair Work Australia as the Fair Work Commission (FWC). *See* Fair Work Act; Fair Work Australia (FWA); Fair Work Commission (FWC).

Fair Work Australia (FWA) sets minimum wages and conditions for workers not on enterprise agreements. Between 2010–12, a ‘one stop shop’ was created for all industrial relations matters headed by a single workplace institution called Fair Work Australia (FWA). This combined the roles of several organisations including the Australian Fair Pay Commission (AFPC), Workplace Authority, Workplace Ombudsman and the Australian Industrial Relations Commission (AIRC). From January 2013, FWA was renamed the Fair Work Commission (FWC). In making its wage decisions, FWC takes into account:

- the promotion of the economic prosperity of the people of Australia
- the capacity for the unemployed and low paid to obtain and remain in employment
- employment and competitiveness across the economy
- providing a safety net for the low paid
- providing minimum wages for junior employees to whom training arrangements apply and employees with disabilities that

ensure those employees are competitive in the labour market.

See minimum wage.

Fair Work Commission (FWC) became the new name of Fair Work Australia (FWA) from January 2013. Its guidelines and functions are much the same as those of its predecessor.

Family allowances are cash or transfer payments from the government to needy families for certain dependent children.

Favourable aggregate supply factors are those that grow an economy’s productive capacity and potential GDP. They cause firms to become more willing and able to produce goods and services than previously, perhaps due to lower costs, higher profits and reduced closures.

Favourable balance of net goods occurs when the value of imports of goods is less than the value of export of goods on Australia’s balance of payments account.

Favourable terms of trade *See* terms of trade index.

Final distribution of income is how private or market income is shared between individuals after allowing for all government redistribution by means of welfare benefits, the provision of free or subsidised services, direct progressive taxes and indirect taxes. Final income determines the access of individuals to goods and services.

Final income refers to the level of market or private income after allowing for the effects of government income redistribution policies including welfare, free or subsidised public services, the payment of direct personal income tax and the payment of indirect taxes.

Final markets are the meeting place for buyers and sellers of particular final goods and services produced by a nation each year. Together, these market forces negotiate final prices for each type of good and service. These are distinct from resource and intermediate markets.

Financial constraints represent a situation where the lack of money or finance prevents a certain action or policy being implemented. In a slowdown, financial or budgetary constraints and fear of large budget deficits, for instance, can help to prevent governments from making excessive tax cuts and/or being over-generous with its spending.

Financial institutions are organisations, such as banks, building societies and insurance companies, that operate in the capital market as borrowers and lenders of money.

Financial market *See* capital market; financial institutions; financial sector.

Financial sector is that part of the economy concerned with the collection of savings and the relending of these to borrowers and investors. It comprises banks and non-bank financial institutions, such as building societies.

Financing the deficit budget *See* government borrowing.

Fiscal balance is a medium-term operating aim of budgetary policy to run an actual *fiscal balance* over the duration of the economic cycle. This means that budget surpluses during upswings should be more than adequate to finance budget deficits during downswings in economic activity, without the need for increased borrowing. *See* budget outcome.

Fiscal policy is another name for budgetary policy and involves changes to the value of government receipts and outlays. *See* aggregate demand management policies; budgetary policy; countercyclical budgetary policies

Five-sector circular flow model is a diagram representing the various relationships that exist between the five key parts or sectors making up an economy.

Fixed costs are those that change little when a business increases production levels (e.g. advertising, product design).

Fixed exchange rate is where the central bank maintains a given rate of exchange against other currencies. This was used by Australia until 12 December 1983. *See* floating exchange rate.

Fixed income earners are people whose incomes remain relatively fixed or lag behind rises in prices and inflation. Many retired people, for example, are on a fixed income.

Fixed incomes are incomes that remain relatively fixed or unchanged over time. Retirees, for example, are usually on fixed incomes as they may receive a pension that will change only if the government decides to increase the pension.

Floating exchange rate is where the price of one nation's currency against that of others is

established by the forces of supply and demand for the currency in the international market for foreign exchange. Australia has had a floating exchange rate since 12 December 1983. If it is a free-floating exchange rate, the Reserve Bank will usually not intervene to alter the exchange rate. *See* exchange rate; fixed exchange rate; foreign exchange market.

Floor price is a minimum price set by the government in a given market for goods or services that is usually above the free equilibrium price in an attempt to keep the price higher for sellers. A floor price for wool was used some years ago; another example is the minimum award wage.

Foreign aid represents the transfer of funds and other types of assistance by governments and private individuals from high-income to lower-income countries. It can be in the form of loans, grants and other technical assistance.

Foreign aid program involves providing financial and other assistance to low-income countries, and is designed to help reduce poverty, promote the UN's Sustainable Development Goals (2015–30) and achieve the Millennium Development Goals (2000–15).

Foreign exchange market is where buyers (D) and sellers (S) of foreign currencies negotiate the rate at which one nation's currency is swapped for another's. The price or exchange rate for each nation's currency is continually responding to market forces, reflecting the currency's relative scarcity.

Foreign exchange reserves are Reserve Bank holdings largely made up of important foreign currencies, such as US dollars, pounds sterling, Chinese renminbi and Japanese yen. Under a floating exchange rate, these reserves may be drawn on to permit a 'dirty' float where the Reserve Bank wishes to iron out a sudden and unwarranted drop in the exchange rate by buying Australian dollars in the foreign exchange market. *See* dirty floating exchange rate; floating exchange rate.

Foreign investment occurs when, for example, non-residents establish or expand the plant and equipment of a nation, thus adding to capital formation. This increases a country's foreign liabilities or debt. *See* capital inflow; direct investment; government borrowing.

Foreign or overseas debt indicates the borrowings from the rest of the world by our government and private residents. In Australia's case, it reflects the large savings–investment gap and our dependence on overseas savings. This is a major reason for Australia's large CAD.

Forward with Fairness Policy is a part of the federal Labor government's initial approach to industrial relations legislation in 2008. It was a reaction to what were seen as non-inclusive, extreme and hostile industrial policies (Work Choices, for example) of the previous Coalition government.

Free enterprise is an economic system based on the assumption that the needs and wants of individuals are best served when they are free to pursue their own self-interest in the absence of widespread government direction. Such a system depends on the forces of the market in decision making about resource allocation and income distribution. *See* market capitalist economy.

Free goods are things which have no direct price because, relatively, they are not scarce; for example, air. Often the government provides health and education free of direct charge to the community.

Free markets are those markets where the government allows prices to be fully set at equilibrium by the competitive forces of supply and demand. These are most common in market capitalist economies. *See* deregulation; floating exchange rate.

Free rider problem occurs when the free operation of the market fails (market failure) to allocate resources efficiently into socially desirable areas that benefit the community. This is because in instances like the provision of street lighting, minor public roads, law and order, lighthouses, and national parks and beaches, it is often very difficult for companies providing the service to make a profit by charging the users and excluding those who benefit from the service, but who do not pay. This is called the free rider problem. Clearly, without government intervention, many public services would be underproduced partly because their broader positive externalities are ignored.

Free trade theory states that international trade should be conducted without the use of government policies involving industry protection

(e.g. tariffs, subsidies and import quotas). As a consequence, resources are used most efficiently in areas of comparative cost advantage, thereby maximising output and material living standards. Writing in the early 1800s, influential English economist David Ricardo first explained the advantages of free trade. This notion was behind the Australian government's policy of trade liberalisation that included the general tariff cuts of 1972–2005, 2010 and 2015 for textiles, clothing and footwear. It is also the basis of free trade agreements (FTAs). *See* protection.

Free trade agreements (FTAs) are bilateral (or multilateral) trade agreements between two (or more) countries where tariffs, subsidies, import quotas and restrictions on the free flow of money capital are removed. By mid 2019, Australia had 11 FTAs: New Zealand (1983, also known as Closer Economic Relations), Singapore (2005), Thailand (2005), the United States (2005), Chile (2007), ASEAN–Australia–New Zealand (2009), Malaysia (2012), Korea (2014), Japan (2014), China (2015), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (30 December 2018), and Indonesia–Australia Comprehensive Economic Partnership Agreement (signed and operational in June 2019, but it still requires parliamentary approval). In addition, FTA negotiations are underway with India, the United Kingdom and the European Union.

Frictional unemployment refers to people temporarily unemployed between leaving one job and starting another. This commonly occurs among tradespeople.

Fringe benefits tax (FBT) is a tax on the value of company-provided benefits for employees in lieu of income; for example, cars, house loans, air tickets and entertainment.

Full employment refers to the federal government's economic goal where cyclical unemployment associated with weak expenditure and recession is avoided, but where a fairly low level of natural unemployment is tolerated. The acceptable target for the unemployment rate is currently around 4.5–5.0 per cent of the labour force, since at this level other goals (such as low inflation) are not seriously undermined. Rates below this normally lead to an acceleration of inflationary pressures, especially wage costs. However, some

economists believe that in the future a lower rate of perhaps 3–4 per cent may become possible if natural unemployment (NAIRU) can be wound back by the introduction of effective government aggregate supply policies.

Full-time workers (employment) are employees who work for 35 or more hours per week.

Future Fund was created in 2005 to help lift national savings, improve the government's long-term financial position and increase the government's ability to meet its unfunded public sector superannuation liabilities of around \$100 billion. It was started in 2005–06 using seed capital of around \$18 billion contributed by the government. This money has been used to create a giant investment portfolio that by early 2019, has grown to more than \$188 billion through the generation of income, topped up with extra money from further asset sales and future budget surpluses. *See* Building Australia Fund (BAF).

G20 is an international group formed in 1999, made up of the finance ministers from each of the top 20 trading economies, including Australia and the European Union. The group's aim is to deal with economic issues of common concern to members. In recent years, this has involved developing strategies to deal with the GFC, global financial instability and high levels of government debt in some countries.

Garnaut climate change review sought to review the issue of climate change from both an international and Australian perspective, then make recommendations for policy action by the Australian government. The final report was released in September 2008 and this information was used to prepare a white paper entitled 'Carbon pollution reduction scheme: Australia's low pollution future' (December 2008). Until September 2013, this was an important element in the former federal Labor government's environmental policy and was meant to apply from 2015 after the carbon tax was abolished. The centrepiece of this policy would have included the proposed introduction of a carbon emissions permit trading scheme. This would put a price on CO₂ and other greenhouse emissions as a way of meeting our obligations under the Kyoto agreement.

GDP *See* gross domestic product.

GDP at constant prices *See* gross domestic product at constant prices.

GDP per capita *See* gross domestic product at constant prices per capita.

General agreement on tariffs and trade (GATT) is an international agreement which, among other things, has attempted to foster trade and reduce the level of tariffs among members of the agreement.

General or overall living standards and general welfare reflect both economic living standards (perhaps indicated by annual GDP per head or real income or consumption per head) as well as non-economic living standards (perhaps affected by freedom, happiness, job satisfaction, the environment, crime, mobility). *See* economic welfare; measure of economic welfare (MEW); non-economic living standards.

Genuine Progress Indicator (GPI) is an alternative indicator of living standards or progress to using GDP and is seen by some as superior because it better measures economic welfare, along with non-economic welfare. It uses the same personal consumption data contributing to GDP, but then makes both negative and positive adjustments to values to reflect the good or bad effects on society's welfare of some different types of activity and spending. *Deductions* from the figures are made to reflect costs such as:

- environmental damage due to air, noise and water pollution and depletion of environmental resources
- the loss of wetlands, farmlands and forest
- road accidents
- reduced leisure time due to increased hours of work
- inequality in the distribution or sharing of income
- defensive expenditures (such as repairs and medical expenses following road accidents) needed to maintain lifestyles
- the cost of family breakdowns
- dependence on foreign debt.
- There are also *additions* to allow for:
 - the ongoing services provided from consumer durable household items and from public infrastructure with relatively long lifespans
 - contributions derived from performing housework, parenting, completing unpaid

community voluntary work and other socially productive uses of time.

Supporters of this measure argue that these adjustments make the statistics a far better indicator of the sustainable level of economic welfare or living standards than simply using GDP. *See* gross domestic product (GDP); Human Development Index (HDI); Measuring Australia's Progress (MAP).

Gini coefficient is a number between 0 and 1 that indicates the degree of inequality in the distribution of income or wealth. A coefficient of 0 is recorded if there is absolute equality in distribution, while a coefficient of 1 indicates there is absolute inequality in income or wealth distribution. It is calculated as the area on a Lorenz diagram between the diagonal line of total equality and the actual Lorenz curve for a country. The greater the deviation of the Lorenz curve from the diagonal, the higher the Gini coefficient.

Global financial crisis (GFC) occurred in 2008–09 when greed and unsound lending practices sparked a series of banking, financial and corporate collapses around the world, shattering consumer confidence and causing businesses to collapse. Typically, governments internationally initiated various rescue packages involving cutting interest rates, providing extra credit to prevent further financial and corporate collapses, cutting taxes and increasing budget outlays.

Globalisation is the spread of business and international trade across national borders as if there was only one large market.

Glut is a market situation of oversupply (surplus output) relative to demand. Under the operation of free market forces, this should force prices down to clear the market and restore equilibrium.

Goal of an equitable distribution of personal income is an Australian government goal where everyone should have access to basic goods and services, enjoy reasonable living standards at a level deemed generally acceptable to society, and avoid poverty.

Goal of external stability is a desirable economic situation where Australia is *living within its means* and *able to pay its way* in its international financial transactions without the burden of high

overseas payments causing severe problems that could reduce our living standards. It also means that Australian firms and the economy, is internationally competitive and able to sell goods and services at an attractive price here and overseas, against foreign competition.

Goal of full employment is the lowest rate of unemployment that will not cause inflation to accelerate (NAIRU). Here there will be no cyclical unemployment due to weak AD or recession. However, around 4.5–5 per cent of the labour force will be naturally unemployed due mostly to structural causes and other changes in supply-side conditions.

Goal of low inflation (also called price stability) is achieved when general prices for consumer goods and services are increasing fairly slowly, within the current target range of 2–3 per cent a year on average, over time.

Goal of strong and sustainable economic growth is the promotion of economically (and increasingly, environmentally) sustainable increases in the volume of goods and services produced by the nation measured over a period of time. The sustainable target for economic growth may currently be around 3 per cent a year average over the economic cycle. Higher rates of economic growth are not sustainable because they tend to significantly worsen inflation, weaken the current account, undermine the exchange rate and cause environmental damage including pollution and resource depletion. Conversely, lower rates jeopardise full employment and equity.

Goods are material or physical objects capable of partially satisfying our needs and wants. They may be of a lasting form (durables) or they may be single-use items.

Goods and services tax (GST) was introduced on 1 July 2000. It was considered essential to help reform the outdated wholesale sales tax (WST) system. Currently it involves a 10 per cent, broad-based GST, with few exemptions other than for basic food, residential rent, dwelling construction, community services, export production, education, and health and financial services. However, there were proposals during 2015 and 2017 to increase the rate of GST to 12.5 or 15 per cent, and/or widen the tax's base. One problem with the GST is that it is regarded as a

regressive tax, where the burden falls disproportionately on low-income earners.

Government bonds are paper IOUs for specified amounts. They are issued or sold by the government to local and overseas people lending money to federal, state (e.g. territory bonds) or local governments, or to semi-government agencies (such as Telstra bonds). In return, the government promises to pay lenders a specified rate of interest over the life of the bond. Bonds are often sold to help finance a budget deficit.

Government borrowing may be used to finance a budget deficit. The government may borrow from several sources:

1. Borrowing from the non-bank Australian public through the sale of government securities tends to leave the money supply unchanged.
2. Borrowing from the Reserve Bank is termed 'printing' money and this normally increases the money supply.
3. Borrowing from other Australian banks by selling them government securities initially has little effect on the money supply, but generally expands it once the government starts to spend the finance raised.
4. Borrowing from overseas through the sale of government bonds tends to increase our foreign debt and the CAD.

Government business enterprises (GBEs) are businesses run by the government in a way that is similar to private firms. They seek to run profitably by keeping costs down and selling their goods and services at an adequate price to cover their costs.

Government capital spending is public purchases of investment goods, including infrastructure, used to help produce other goods and services for collective use (such as new buildings, railway lines and power generators). It is abbreviated as G_2 .

Government consumption spending is public expenditure on the purchase of goods and services for immediate use, such as the purchase of stationery and other office supplies, and the wages of public servants. It is abbreviated as G_1 .

Government debt is money or credit owed by government.

Government deregulation refers to the removal of direct government controls, restrictions and supervision of various markets and other areas of the economy.

Government economic services spending or expenditure is government budget outlays on the provision of electricity, water, gas and employment schemes, etc.

Government failure is a situation where government intervention or regulation unintentionally results in reduced efficiency in resource allocation and a reduction in our economic wellbeing. Some possible examples of this in Australia include large subsidies for the coal industry that encourage demand and pollution, and accelerate climate change, the relative rise in the excise tax on premixed alcoholic drinks that tend to cause consumers to switch to stronger beverages, aspects of the minimum award wage that may contribute to unemployment, government monopolies in the provision of some services that limit competition and reduce efficiency, the use of tariff protection rather than free trade that redirects resources into areas of cost disadvantage, and the creation of welfare traps that can sometimes discourage financial independence and work.

Government goals See economic goals of the Australian government.

Government investment is government provision of plant and equipment designed to produce goods and services for the community (infrastructure including roads, railways, public buildings, ports, power grids and dams). This has an effect on both the levels of aggregate demand and on aggregate supply.

Government outlays are the expenses of the government or how the money raised from taxes is used to pay for welfare, education, defence and health. Being an injection in the economy, these add to AD.

Government receipts are government income from various sources such as taxes. Being a leakage in the economy, these slow AD.

Government sector is that part of the economy concerned with raising tax revenue and its spending or outlays.

Government securities are sold in Australia and overseas to raise finance for the budget, or in an

attempt to influence the volume of money. Investors are attracted by the government guarantee of security and by the interest rate offered. *See* government borrowing.

Government spending consists of *two* main types:

1. Government consumption or current spending (G_1) on, for example, the payment of public servant wages, defence equipment and day-to-day running costs of departments. The level of this spending is relatively inflexible.
2. Government investment or capital spending (G_2) on, for example, construction of buildings, roads and power generators.

Note that, by contrast, the budget also includes government outlays on transfer payments that do not actually represent government ‘spending’ in exchange for goods and services.

Government spending on training and education represents another outlay in the budget that can be used in the long term to cultivate the skills, productivity and creativity of Australia’s labour resources (grow our human capital). Such outlays help grow our productive capacity and increase aggregate supply. They involve both (1) current spending on materials and wages, outlays on fees and other support for families and students; and (2) capital or investment spending on buildings, equipment, facilities and infrastructure for pre-school, primary and secondary schools, VET training, universities, TAFE education and libraries.

Government subsidies are cash payments by the government designed to lower business costs and help producers compete by enabling them to sell their product at a lower price than would otherwise occur. These can be used to correct market failure.

Grants are part of foreign aid and represent straight-out donations of cash that do not need to be repaid.

Great Depression was a severe fall in economic activity experienced throughout the world between 1929 and 1933. In Australia, unemployment exceeded 29 per cent, real per capita incomes fell by about 27 per cent, and there was widespread poverty and suffering.

Green GDP is a measure of a nation’s economic growth adjusted downwards for the environmental impacts of producing goods and

services such as the depletion of resources, environmental degradation and loss of biodiversity.

Greenhouse gas emissions include methane, nitrous oxide, sulfur hexafluoride and hydrofluorocarbons released into the atmosphere as a result of economic activity and the burning of fossil fuels. Most people believe that these gases are also contributing to global warming, melting of the polar ice caps, rising sea levels and extreme weather events like droughts, fires, floods and storms. Many feel that unless a price is put on carbon emissions (or CO_2) by means of a tax, or determined in an emissions trading scheme, they will continue to rise. Emissions are an example of a negative externality.

Gross domestic product (GDP) is commonly taken as an indicator of the value of a nation’s output. It represents the total market value (unless expressed at ‘constant’ prices) of final goods and services produced by a country over a period of time (generally a year), minus the costs of inputs used up in production other than the cost of capital equipment. Traditionally, GDP has been calculated in several ways; for example:

1. The aggregate expenditure method = $(C + I) + (G_1 + G_2) + (X - M)$ (the sum of expenditure or demand on final output).
2. The aggregate incomes or cost method = wages, salaries, and supplements, plus gross operating surplus of enterprises, minus imputed bank charges, plus indirect taxes minus subsidies. Nowadays, the chain volume approach to measuring GDP is used.

See chain price indexes.

Gross domestic product at constant prices is the value of final output of a nation’s goods and services adjusted downwards for the effects of inflation by the use of, for example, the implicit price deflator index for production. After such adjustments, changes in real GDP (GDP at constant prices) reflect changes in the actual quantity of goods and services produced over a period of time. This makes it a much more useful and reliable measure of economic growth. Since 1998, this measure has been replaced with the chain volume estimate of GDP. *See* gross domestic product — the chain volume approach to measurement.

Gross domestic product at constant prices per capita is a measure commonly used as a rough indicator of the average level of material living standards or wellbeing of a nation's people. It is equal to the value of real GDP divided by the nation's population size. However, this is not a good measure of economic wellbeing for many reasons, including its failure to take account of the pattern of income distribution and the level of income inequality. In addition, it tells us nothing about non-material living standards.

Gross domestic product — the chain volume approach to measurement has been used since September 1998 by the ABS to measure GDP. This is a very complex and technical development in the estimation of Australia's volume of national production. It is designed to make Australia consistent with some of the world's leading statistical agencies. The main reason for this shift is that chain volume measures that are annually linked and reweighted provide more accurate indications of changes in real output and expenditures than the traditional constant price estimates of GDP.

Gross income represents the total of private or market income received before tax, along with income received from government welfare benefits.

Gross national expenditure (GNE) is the sum of expenditures on goods and services purchased for use within Australia. As such, it includes spending on imports but not spending on our exports of goods and services.

Gross National Happiness (GNH) is a broader composite index of living standards or wellbeing made up of several indicators such as GDP per head, social support, health and life expectancy, freedom to make life's choices, generosity and trust.

Growth rate is the increase in the quantity of real value of goods and services produced by a nation against the previous year, expressed as a percentage. *See* economic growth.

Hard-core unemployment is experienced by individuals who find it difficult to obtain or hold a job because of personal characteristics, such as disabilities, illness and poor attitude or work ethic. *See* unemployable persons.

Hard loans represent credit offered at the normal market rate of interest.

Headline balance refers to the difference between the total cash value of budget receipts minus the cash value of total outlays from all sources, without the removal of items that are affected by one-off events such as asset sales and debt repayments.

Headline budget position *See* budget outcome.

Headline inflation is measured by estimating the average annual change in retail prices across a regimen or basket which contains more than 100 000 individual goods and services made locally or overseas. Some of these items (such as fresh foods) are subject to volatile price changes caused by one-off events (e.g. weather conditions). For this reason, a more popular measure of fundamental inflationary pressures is the *underlying inflation rate* which is calculated by removing about 20 000 volatile items from the CPI regimen. The RBA's and government's goal of low inflation involves having average annual inflation within the 2–3 per cent target over time.

Health and Hospitals Fund is a special savings fund set up using part of the federal budget surplus in 2007–08 to help cover the renewal and refurbishment of hospitals and health facilities, as well as some medical research projects. Subsequently, it has been renamed, the Medical Research Future Fund with assets of over \$9.6 billion by March 2019.

Henderson report *See* poverty; poverty line.

Henry review of Australia's future tax system recommends changes to Australia's tax system, including cutting the rate of company tax to 25 per cent and introducing a resources super profits tax (RSPT) at a rate of 40 per cent on companies exploiting our non-renewable mineral resources.

Hidden unemployment includes those individuals who would like a job or longer hours of work (more work than they currently have). They are not recorded by the ABS in official statistics as unemployed because they are not actively seeking a job. However, they would look for work if they thought they had a reasonable chance of gaining employment. This leads to a serious underestimation of the actual unemployment rate in Australia.

High-income nations are defined by the UN as those where average incomes are over \$12 736 per person a year.

Hilmer report (1995) is an economic inquiry into aspects of the Australian economy that resulted in a long list of recommendations involving microeconomic reforms designed to improve levels of efficiency and competition. Its recommendations became the main basis of Australia's national competition policy (NCP). *See* national competition policy.

Homogeneous product is a product or service where there is no product differentiation, so the good or service supplied by one producer is identical to that type of good or service supplied by other producers. Homogenous products are assumed to exist in a purely competitive market, but this is not the case when brand names exist or other types of product differentiation occur.

Horizontal integration is when firms are joined together to become a bigger business in the same industry. This can increase economies of large-scale production.

Household sector is that part of the economy comprising all individual consumers. In a capitalist economy, these people are also the owners or suppliers of resources.

Human capital is a term that refers to the quality or skills of the labour force that affects its productivity.

Human Development Index (HDI) is another measure comparing the wellbeing of people in different countries. It takes into account both positive and negative indicators (e.g. the level of income per person per year adjusted to international dollars, life expectancy, level of education), and combines them into a single statistical index number between 0 and 1.

Hyperinflation is an extreme situation where prices rise very quickly.

Ideal labour market conditions exist when there is a balance between the demand for and supply of labour. Here, conditions should not be so strong that there are labour shortages leading to inflation, nor so weak that there is high unemployment.

Immigration is people entering a country as permanent residents.

Immigration policy is an aggregate supply policy that is now closely geared to help meet the needs of the labour market in our growing economy with an ageing population. It involves setting annual immigration targets (perhaps 160 000 per

year, as in 2019–20) to manage the overall number, composition, skills and age of migrant arrivals from overseas. It prioritises those who are more likely to make a valuable and ongoing economic contribution to the Australian economy.

Immigration target represents the desired level of immigration (with subcategories or streams including skilled, family and humanitarian).

Impact lag *See* time lag.

Imperfect competition is a condition in a market economy where competition between buyers or sellers is limited by the growth of monopolies and oligopolies, advertising, restrictions to entry in the market and a lack of knowledge of market conditions. This type of market failure is quite common in Australia and is seen by many as a source of higher prices, inefficiency and lack of competitiveness of industry. *See* cost inflation.

Implementation lag *See* time lag.

Implicit price deflator indices (IPDI) were prepared by the ABS and used to remove exaggerations in the national aggregates caused by the effects of inflation. Being based on a broader range of commodities and services, the IPDI for production is preferred to the CPI in adjusting, for example, the GDP to constant prices. More recently, chain price indexes have been used for this purpose.

Import quotas are quantitative government restrictions imposed to limit imports through the issue of licences to importers. For instance, over the years, foreign cars, electrical goods, textiles and footwear have been restricted by this means, despite the fact that quotas may lead to reduced competition, higher prices, inefficiency and a misallocation of resources in the Australian economy. Since 1992, these quotas have been progressively abolished (except for the quota on cheese, which was abolished in 2001).

Import spending (M) is expenditure by Australians on foreign-made goods and services, which is designed to help satisfy our needs and wants (e.g. oil, electronics, travel).

Import substitution occurs when local industries produce goods and services that could be imported. These displace imports.

Imports are goods and services produced overseas and brought into the country. Major imports are oil, machinery, consumer durables, travel abroad

and property income payable overseas. These are regarded as debits on the balance of payments current account.

Incentives are designed to change or modify the behaviour that would otherwise occur. They can be of four types:

- positive incentives or rewards (e.g. cash subsidies, a pay rise, a special award)
- negative incentives or punishment (e.g. a new tax)
- monetary incentives (e.g. involving money rewards or a special award)
- non-monetary incentives (e.g. points for speeding on the roads).

Incidence of tax refers to which groups of people bear the main tax burden.

Income is rewards to those supplying productive resources. In turn, income gives individuals command over the purchase of goods and services to satisfy needs and wants. Income may take various forms, including:

- wages and salaries paid to workers
- rent paid to landlords
- interest paid to owners of capital
- profits paid to risk takers
- transfer payments, income support or welfare from the government to the needy
- payment in kind (provision of goods and services in lieu of money).

Earned income (e.g. wages and salaries) is from working, while unearned income (such as interest and dividends) is from investments.

Income distribution is the pattern or way in which income is divided between individuals, groups or sectors within an economy. This pattern may be highly unequal (as occurs in some oil-producing countries, for example), moderately unequal (e.g. in Australia) or fairly even (such as in Scandinavian countries). In Australia, inequalities exist in wages and salaries, and especially in the ownership of wealth. Moreover, there are inequalities based on age, sex, education, geographic location, luck and inheritance. *See* equity in the distribution of income as a government goal; poverty.

Income redistribution is where the government seeks to alter the allocation of income that would otherwise occur in the economy. Generally, this has involved slightly reducing income inequalities at the ends of the economic ladder

using, for example, progressive taxes, direct means-tested welfare benefits and government spending on indirect benefits such as health. In this way the government pursues its goal of an equitable income distribution where everyone has access to basic goods and services at a level deemed generally acceptable to society.

Income support *See* aged pension; welfare benefits.

Income unit is a term used in measuring the number of Australians living in poverty. It refers to a group of people dependent upon a given source of income. *See* poverty.

Index numbers are used by statisticians to show changes in a variable over a period of time measured against some base year which is usually made equal to 100 index points. *See* constant prices.

Indexation is the adjustment of a variable (such as wages, social welfare benefits or taxes) to make allowances for the adverse effects produced by inflation.

Indirect benefits normally help the poor in an indirect way through governments providing low-cost or free access to certain basic goods or services, such as public housing, health and education. Most are regarded as merit goods that are socially beneficial.

Indirect taxes are levied on the buyers of goods and services at the point of sale, rather than directly on incomes. Tariffs, GST, the carbon tax, excise duties and sales taxes are examples.

Traditionally, such taxes have often been fairly regressive, thus tending to exaggerate income inequalities. However, if luxuries are taxed in this way (e.g. imported cigars, wines and spirits), the impact may be progressive because the incidence generally falls more on wealthy buyers.

Industrial conflict is the differences between workers (or their unions) and employers over such issues as wages, conditions and holidays. Industrial conflict may take many forms — strikes, bans, pickets, go-slows, absenteeism and boycotts.

Industry Commission (IC) was previously called the Industries Assistance Commission (IAC). This government commission was set up to hold inquiries and make recommendations on tariff and other assistance for Australian producers in a manner designed to improve efficiency in resource allocation and to facilitate desirable

structural changes in the economy. Its role has now been taken over by the Productivity Commission.

Industry protection *See* protection.

Inelastic demand occurs when the demand for a particular good or service changes *less than proportionally* to the change in price (e.g. a 10 per cent fall in price results in a 5 per cent rise in quantity demanded). In this instance, total revenue decreases following a fall in price.

Inelastic supply occurs when the quantity supplied changes by a *smaller proportion* than the change in price (e.g. a 10 per cent price rise produces only a 5 per cent rise in the quantity supplied).

Inequality in personal income is the wide gap between those Australians on high incomes and those on low incomes. Here, the income cake is divided unevenly and there are large differences in living standards.

Inequitable distribution of income refers to a situation where a nation's income cake is divided unfairly and where many people are unable to enjoy access to basic goods and services and reasonable living standards at a level deemed generally acceptable to the community.

Inferior goods are those that are replaced by better quality goods as disposable income rises (e.g. steak replaces basic sausages, or an air conditioner replaces a fan).

Infant industry argument is based on the fact that new industries that are just being established will have higher production costs than those that are well established. This justifies helping them to get started using some form of trade protection measures.

Inflation is a situation where average prices for goods and services are rising. In this situation, there may be a redistribution of income, an adverse external effect on overseas reserves and the exchange rate, unemployment and the erosion of business confidence. Generally, economists distinguish two main types of inflation — cost and demand. *See* cost inflation; demand inflation.

Inflation rate is the increase in average prices of a basket of consumer goods and services, expressed as a percentage rise on those in the previous year. The most common measure of the inflation rate is the consumer price index (CPI). Inflation reduces the purchasing power of incomes and makes most people worse off.

Inflation targeting (or 'fight inflation first') has been used by the RBA as the priority guiding changes in its monetary policy stance. These days, inflation targeting means achieving an underlying inflation rate averaging between 2–3 per cent a year over time. This is the medium-term aim of monetary policy. *See* checklist approach to inflation targeting by the RBA.

Inflationary expectations occur when the community comes to expect a continuation of rising prices, which causes people to press for higher wages, salaries, rents and interest to compensate them and to protect their real disposable incomes. Using monetary policy to control these expectations is vital for successful government stabilisation policy.

Infrastructure consists of two types: (1) economic infrastructure, (e.g. power, water, roads, ports, rail links and communications including the national broadband network), which is often used to assist industry; and (2) social infrastructure (such as schools, universities and hospitals). Overall, improved infrastructure is seen as a favourable aggregate supply factor because it helps to expand an economy's productive capacity and potential rate of GDP growth, and improves the community's living standards. It also encourages the growth of new industries. In recent years, there have been bottlenecks in economic and social infrastructure, and these have limited the growth in Australia's productive capacity, aggregate supply and the sustainable rate of economic growth. *See* collective goods and services or wants; Infrastructure Australia.

Infrastructure Australia (IA) is the institution through which the construction of nationally significant infrastructure projects is being made. Taking recommendations and acting in consultation with the federal and state governments, the IA allocates funds and commences projects.

Infrastructure investment can be regarded as an aspect of aggregate supply budgetary policy that involves federal government outlays on the capital resources (G_2) that are in turn used by suppliers to produce other goods and services. Infrastructure may be of two types: (1) social infrastructure, which especially involves the provision of capital goods to facilitate services

like education and health; and (2) economic infrastructure, which typically includes highways, railways, sea ports, airports, electricity capacity and delivery, gas, telecommunications including the broadband network, sewerage and water supply. Investment in better infrastructure helps lift efficiency and lower production costs, strengthening business profits and leading to the growth of productive capacity.

Initial distribution of income is the way private or market income (such as wages, rent, interest and profits) is divided among members of society before government redistribution measures are applied. The initial distribution of income is influenced by factors such as education, luck, inheritance, family attitudes, peer group pressures to succeed, unemployment, the participation rate, hours worked, gender, age and personal abilities. Governments alter the initial distribution of income. They redistribute incomes using progressive taxes, welfare and free services so that the final distribution of Australian income is more even than the initial income distribution.

Injections are additions to the flow of total spending made up of private investment (I), government (G) and export spending (X). These tend to raise economic activity.

Institutional constraints are the limits on policies and actions imposed by the economy's organisations such as markets, business firms, unions, pressure groups and various levels of government. Some institutions slow the pace of economic change.

Interest rate is the annual cost of borrowing credit or the annual return on invested savings. Rates are closely related to the nation's inflation rate and are largely determined at equilibrium in financial markets by the forces of supply (by savers) and demand for credit (by borrowers). Australia has higher interest rates than some countries because of the lack of national savings (a savings–investment gap). This puts us at a competitive or cost disadvantage. It also leads to a rise in the net foreign debt and current account deficit. *See* interest rate policy; monetary policy; rate of interest.

Interest rate policy is the deliberate attempts of the Reserve Bank of Australia (RBA) to bring about changes in the cost, availability and demand for credit. This policy involves the RBA conducting

operations in the short-term money market. Open market operations involve the RBA selling or buying back government securities to achieve its cash rate target. As part of countercyclical policy, the RBA normally raises interest rates during booms or periods of expansion (e.g. the seven rises in 2009–11) to slow AD and economic activity, and thus avoid adding to inflationary pressures. By contrast, it cuts interest rates when there is weak AD, slowing economic activity, recession and rising cyclical unemployment (such as the 16 cuts between late 2011 to late 2019). Changes in interest rates work to alter the level of AD and economic activity through the various transmission mechanisms. *See* transmission mechanism for monetary policy.

Intergenerational reports were published in 2002, 2007, 2010 and 2015. The reports were about the emerging financial crisis for the government and individuals caused by the ageing of Australia's population and the relative decline in the size of the cohort entering the labour force. With fewer taxpayers and the growing cost of aged care, health and pensions, the prediction is for the federal budget deficit to rise to more than \$80 billion per year within 30–40 years unless solutions are found; for example, increased immigration to grow the labour force, or encouragement of private superannuation.

Interlocking directorships occur when the director of one company is also on the board of another company in the same line of business. Such a person may be in a position to restrain competition between the two companies.

Internal balance *See* domestic economic stability; economic stability.

Internal stability (also called domestic economic stability) is a desirable or ideal economic situation pursued by the government involving the simultaneous achievement of full employment/production and low inflation (e.g. as occurred perhaps overall between 2005 and 2007, and maybe in 2011–12). *See* domestic economic stability.

International competitiveness involves local firms and producers being able to compete (in terms of low prices, and comparable quality and service) with rivals and competition from overseas, without government protection from imports or special financial assistance. International

competitiveness may be affected by variables like wage costs, productivity, costs of utilities, tax rates on companies, transport costs and government red tape. Local firms often need to cut their production costs, improve quality, widen their product range, and raise efficiency in production and marketing to be internationally competitive. *See* microeconomic reforms.

International Monetary Fund (IMF) is a global organisation that keeps an eye on the world's financial system. It was set up in 1944 to help stabilise international exchange rates, promote economic development, provide technical assistance and act as a lender of last resort to governments with financial troubles.

International trade and transactions is the exchange of goods, services, primary incomes, secondary incomes and money capital between nations as recorded on the balance of payments accounts. *See* balance of payments account.

International transactions involve the buying of imports of goods and services from overseas, and the selling of exports of goods and services abroad. Additionally, these transactions include the movement of finance or money capital between Australia and the rest of the world as nations undertake international investment.

Internationally competitive firms are those with goods and services (of a given quality) that can sell profitably at a lower price in both domestic and international markets without tariff protection or special government financial assistance.

Intertemporal efficiency means that there is a suitable balance between resources being allocated towards current consumption on the one hand and saving for financing future investment on the other. *See* efficiency.

Investment is capital equipment (plant and machinery) installed by enterprises to help make other goods and services and to raise productive capacity. *See* capital, investment goods; capital resources.

Investment spending is expenditure on the accumulation of capital or producer goods such as plant and equipment. It may be undertaken privately (I), or by the government (G_2). Private investment has traditionally been highly unstable and is greatly influenced by business expectations. *See* capital expenditure; capital, investment goods.

Job vacancies are unfilled offers of work made by employers. These rise in periods of high economic activity and fall in times of low activity.

Keynes, John Maynard was a famous British economist (1883–1946) who wrote *The General Theory of Employment, Interest and Money* (1936). The ideas contained in this macroeconomic theory revolutionised the attitude and approach by governments to economic instability (booms and depressions). Keynes believed that a market capitalist economy was inherently unstable because the level of aggregate demand (effective demand) was unstable. From time to time the economy may experience recessions and depressions caused by an insufficiency of spending, which he believed could be solved by taking measures to lift spending to the extent needed to generate full production and employment (e.g. by lowering taxes and increasing government spending). At other times, the economy may experience booms, which are caused by an excess of spending. The macroeconomic solution proposed was simply the reverse to that adopted in recessions. Thus, countercyclical policies could be used to help iron out serious economic fluctuations. Today, Keynesian economics still forms the cornerstone of government policy in most Western nations.

Kyoto agreement is an international agreement designed to try to limit greenhouse gas emissions. It commits Australia to limiting its greenhouse gas emissions for the period 2008–12 to a target of 108 per cent of the 1990 emissions level. The Australian government's updated target in 2014 was to cut emissions 5 per cent below the 2000 levels by 2020.

Labour costs include wages paid to staff involved in the production of goods and services.

Labour efficiency or productivity *See* productivity.

Labour force generally includes individuals who are aged over 15 years and who are:

1. employed for wages or gain, or
2. unemployed — that is, those without a job but who are willing and able to work.

Today, Australia's labour force consists of more than 10 million workers. *See* employment; participation rate; unemployment.

Labour force survey conducted by the ABS measures various aspects of the labour market

including employment, unemployment, participation and duration of unemployment.

Labour force underutilisation rate is the extent to which the labour force is not working to its capacity. It is calculated by adding the unemployment rate with the underemployment rate.

Labour market is the place, region or institution where buyers and sellers of labour negotiate wages. Even today, this market is not fully competitive because of intervention by governments, large unions and employers. However, there has been labour market deregulation and an extension of workplace agreements.

Labour market conditions refer to whether the demand for labour is relatively strong, steady or weak, relative to the supply of labour. Typically, strong labour market conditions appear when economic activity is rising and are indicated by low unemployment rates of around 4–5 per cent, many job vacancies, a declining duration of unemployment and increasing hours of work. By contrast, weak labour market conditions appear in recession and are reflected in high unemployment rates of say 6 per cent or more, few job vacancies, a rising duration of unemployment and decreasing hours of work.

Labour market deregulation or reform has involved the introduction of enterprise bargaining in the 1990s and 2000s, where wages are linked closely to increased efficiency rather than being set fairly uniformly by a central government authority.

Labour market reforms involve changing the way wages and working conditions are determined. They represent an aggregate supply policy and are primarily designed to improve the efficiency or productivity of Australia's labour resources and to help slow wage and on-costs. They often focus on promoting greater flexibility in employment, along with stronger competition and incentives for workers to lift productivity. The main measures have included a reduced emphasis on and importance of the centralised minimum wage system, and the encouragement of a decentralised wage system of enterprise or workplace agreements that emphasise improved productivity in exchange for pay rises. In addition, awards have been combined and simplified, union

amalgamation has been encouraged, unfair dismissal laws were relaxed (initially for firms with fewer than 100 staff, although in 2008 this protection for workers was partly reinstalled), closed shops have been made illegal, the role of unions has been reduced, and new legislation has been passed including the *Workplace Relations Act* (1996), *Workplace Relations Amendment (Work Choices) Act* (2005), *Workplace Relations Amendment (Transition to 'Forward with Fairness')* Act (2008), the *Fair Work Act* (2009) and the *Fair Work Amendment Act* (2012).

Labour productivity See efficiency; productivity.

Labour resources provide physical power and mental talents to the production process, generally in exchange for wages and salaries.

Lagging indicators show changes in economic activity sometime after the event has occurred because they take time to respond.

Lags See time lag.

Land includes arable land, urban land and mining leases, which are regarded as productive resources. Usually land is taken also to include naturally occurring resources such as minerals, forests, water and climate.

Law of demand states that the quantity of a good or service demanded varies inversely to price. For instance, as the price rises, demand contracts and as the price falls, demand expands. This involves a movement *along* the demand line.

Law of supply states that the quantity of a good or service supplied varies directly with price. For instance, as the price rises, supply expands and as the price falls, supply contracts. This involves a movement *along* the supply line.

Leading indicators are statistical measures that give policy makers advance warning of changes in economic activity; for example, consumer and business confidence, new building approvals and the composite leading indicator.

Leakages of spending represent a loss of expenditure, causing a drop in economic activity. They act as a brake to slow the economy and include savings (S), imports (M) and government taxes (T).

Level of economic activity refers to the pace or speed at which the economy is operating. It mainly relates to the level of national production indicated by GDP, but this is also reflected in the rates of inflation and unemployment. The level of

economic activity changes in a cyclical or wave-like manner. This is called the business cycle. Typically, the level of economic activity passes through four phases:

1. the *expansion* or *recovery* in GDP
2. the *peak* in GDP
3. the *contraction* or *slowdown* in GDP
4. the *trough*.

See boom; business cycle; contraction; depression; economic activity; expansion; recession.

Liquidity is the ability to convert assets into cash or purchasing power.

Living standards refers to how well-off a nation is overall. There are *two* components

1. *economic or material living standards* (relates to the *quantity* of goods and services consumed by each person each year)
2. *non-material living standards* (relates to the *quality* of daily life for individuals as affected by subjective elements including levels of happiness, job satisfaction, crime, environmental health, urban congestion, hours of work and leisure, family tensions and stress).

Clearly, average GDP per capita cannot adequately measure material and especially non-material living standards. These two elements of wellbeing also affect each other in compatible and conflicting ways. For instance, increased economic living standards may cause negative externalities associated with increased pollution, hours of work and stress. These undermine non-material living standards. Alternatively, efforts to reduce environmental damage (such as putting a price on carbon emissions through the carbon tax in 2012–14) may slow the growth of some industries and the economy, and undermine material living standards. See economic welfare or wellbeing; general or overall living standards and general welfare; non-economic living standards.

Localisation is the opposite of economic globalisation. Here, goods, services and investment are localised in a small region or area within a particular country's economy and are not interdependent with other areas, regions or countries.

Long term or long run is a period of time, possibly more than a couple of years in length. In the long

term all variables may be changed, whereas in the short term many variables are relatively fixed. Additionally, the underlying average trend of a graph or variable may only become apparent over many years.

Long-term economic prosperity means that all future generations are able to also enjoy high incomes and consumption levels.

Long-term trend is the general or average direction (upwards, downwards or horizontal) of a variable, usually established over a number of years (perhaps 10 or 20 years).

Long-term unemployment refers to members of the labour force who have been out of work for more than one year (i.e. unemployed for more than 52 weeks).

Lorenz curve is that part of the Lorenz diagram that depicts the degree of income or wealth equality or inequality. The greater the deviation of the income or wealth lines from the diagonal line of absolute equality, the greater the inequalities in income or wealth distribution in a country.

Lorenz diagram is a diagram designed to illustrate the degree of income or wealth inequality. See Lorenz curve.

Low-income countries are those where people subsist on a mere \$2.86 or less per day (around \$1045 per year per person), and where typically there is great physical deprivation, poverty, hunger, inequality, insecurity, poor health, illiteracy, persecution, and the absence of hope and opportunity.

Low inflation as a government economic goal (also called price stability) is currently taken to mean a slow annual rise in consumer prices of around 2–3 per cent per year on average over time, or perhaps at a rate less than that of our trading competitors. This is seen as consistent with achieving other important government goals like full employment, strong and sustainable economic growth, external stability and an equitable distribution of personal income. Ultimately, achieving this goal generally helps to improve our living standards.

Macroeconomic policy is associated with government budgetary policy and RBA monetary policy used to deliberately alter the level of aggregate demand in a countercyclical way. First proposed by economist John Maynard Keynes in 1936, these aggregate demand policies are

usually tightened to slow AD during an inflationary upswing (e.g. bigger surplus budgets and higher official interest rates) and loosened to stimulate AD during a recessionary downswing (e.g. smaller budget surpluses or bigger deficits and cuts in official interest rates). *See* aggregate demand management policies; budgetary policy; countercyclical budgetary policies; Keynes, John Maynard; monetary policy.

Macroeconomics is the branch of economics that emphasises the central role played by the level of expenditure or aggregate demand. Developed by economist John Maynard Keynes during the 1930s, macroeconomics also involves looking at the general influences on national spending, output, income, employment and overall material living standards. It emphasises the need for some degree of government regulation of AD and economic activity using aggregate demand management policies applied in a countercyclical manner. By contrast, microeconomics involves an analysis of how the various parts making up the total Australian economy (sectors including firms, industries and households) actually operate. Microeconomics thus studies the supply side of the economy. *See* aggregate demand; economic activity.

Mandated renewable energy target (RET) is a legislative attempt by the government to increase the level of renewable energy derived from wind, solar and other sources with low carbon emissions.

Market is an institution or organisation used to make economic decisions. Here, goods and services are bought and sold at prices which are negotiated between buyers and sellers, and set at equilibrium between demand and supply. Traditionally, markets were set up in the centre of towns or cities, and involved face-to-face contact between sellers and buyers of goods and services. Nowadays, this has been changed by the revolution in communications on national and international levels. *See* final markets.

Market capitalist economy is an economic system with private ownership of most means of production, and the price mechanism or market forces of supply and demand determining resource allocation, income distribution and ownership of the means of production. As an instrument for making decisions, market forces would:

1. set prices of resources and final products, thereby dictating which types of goods and services would be most profitable. These products would then be produced.
2. dictate the cheapest, most profitable and efficient methods used by private enterprise. The lowest cost combination of inputs of labour, natural resources and capital would be used.
3. operate to distribute incomes to those who had contributed to production. This economic contribution would be priced by the market, thereby creating income differences. In a pure market capitalist economy, certain preconditions would need to exist, including competition between many small independent buyers and sellers, lack of product differentiation, a desire to maximise profits and self-interest, a perfect knowledge of market conditions, lack of government interference, no unions or business monopolies, and freedom of entry into the market.

Market deregulation is a process to increase efficiency whereby the government reduces controls and restrictions that limit competition or the free operation of demand and supply in the determination of market prices.

Market economy is an economic system where most decisions about what and how much to produce, how to produce (production methods) and for whom to produce (how the income cake is divided) are made through the free operation of the price or market system. Here, changes in relative prices affect the relative profits of producing different products, causing resources to be reallocated to maximise profits.

Market failure occurs when the operation of the price system involving the forces of demand and supply fails to allocate resources efficiently to maximise the general satisfaction of society's needs and wants. Market failure can arise when:

1. competition between firms in markets is weak and there are monopolies and oligopolies
2. the market does not produce enough socially desirable public goods and services at a low and affordable price (so that everyone can access these)
3. those who do not directly pay for a service (such as street lighting or defence) cannot easily be excluded from gaining benefits (the

free rider problem). Here it is hard to make profits so there is underproduction.

4. there are both positive and negative externalities arising from the production and consumption of goods and services. Market failure may mean that the market overproduces socially undesirable goods and services that impose costs on others in society, because some individuals are ill-informed or immature in their judgements and profits are high
5. there is asymmetric information: one party to a transaction knows more than another, undermining effective and rational decision making.

See asymmetric information; free rider problem.

Market for foreign exchange *See* foreign exchange market.

Market forces are an instrument for making decisions involving the operation of demand and supply in a market to determine the equilibrium price. By affecting the level of relative prices, changes in conditions of demand and supply also affect relative profits, and hence create signals that help the profit-seeking owners of resources to make key economic decisions. Resources are directed into the areas where they are most wanted by consumers. *See* market capitalist economy; market mechanism.

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

Market income *See* private income.

Market mechanism is the system of decision making whereby the free forces of supply of and demand for particular goods and services operate to set relative prices at the point of market equilibrium. In turn, price changes upwards and downwards act as signals to tell or inform producers of changing consumer decisions about particular types of goods and services they want to see produced. When relative prices of different goods or services change, this affects relative profits and hence the allocation of resources between alternative uses. It is most prevalent in contemporary market economies like Australia where it operates to allocate perhaps over 80 per cent of all resources.

Market operations *See* open market operations.

Market power relates to the ability of a firm to control or influence prices and the output of an industry. *See* market structure or power; monopoly; oligopoly; perfect competition.

Market price is the price of goods or services established by the operation of the forces of supply and demand. *See* market capitalist economy; market mechanism.

Market shortage occurs at a price that is too low and below the equilibrium price. Here, the quantity demanded is greater than the quantity supplied.

Market socialism is an economic system where, despite the existence of widespread government direction and collective ownership, economic decisions about resource allocation and income distribution are strongly and increasingly influenced by the operation of the price mechanism, which sends out signals to owners of resources. China is an example of market socialism.

Market structure or power reflects the degree of competition that exists between manufacturers and sellers in an industry. This can vary from very strong (a purely competitive market) to very weak (a restricted or monopolistic market). Between these extremes, there is monopolistic competition and oligopoly.

Market zoning occurs when firms that usually compete with each other decide not to compete with each other over price in a particular area or zone.

Material living standards relate to the 'quantity' of goods and services individuals consume. It reflects our level of economic wellbeing influenced by the annual levels of per capita GDP, incomes and consumption of goods and services. To calculate average material living standards, GDP per head could be used. It is calculated as follows:

$$\begin{aligned} & \text{Average GDP per head} \\ &= \frac{\text{Real GDP (\$)}}{\text{Total population of nation}} \end{aligned}$$

One important problem with this measure is that it assumes that the goods and services are distributed evenly across society and geographic regions. Another is that it fails to take account of

negative externalities that impact adversely on our wellbeing. *See* Genuine Progress Indicator (GPI); Human Development Index (HDI); living standards; Measuring Australia's Progress (MAP).

Maximum or ceiling price is a price in a market that is below the equilibrium. It is set by the government in an attempt to keep the price lower and make the item more affordable.

Means of production are factors that enable production to take place, including farms, mines, shops, banks and factories.

Means test is often applied to individuals to decide whether or not they are sufficiently needy or eligible to receive government social services. It is designed to exclude relatively higher income earners, with the main intention being to close the income gap between the relatively rich and the poor. Only those whose incomes fall below the cut-off or means test may receive the government transfer payment. *See* assets test.

Measure of economic welfare (MEW) more accurately reflects actual consumption rather than simple production of goods and services. Starting with GDP, adjustments are made to the figure for certain disamenities associated with production (costs such as pollution and traffic congestion), along with other factors such as an allowance for the amount of leisure time for workers.

Measuring Australia's Progress (MAP) is not a single or composite statistical indicator of welfare like GDP or GPI. Rather, it is a suite or collection of measures published periodically by the Australian Bureau of Statistics (such as the 2013 report, ABS 1370.0) and used to indicate whether life in Australia has improved and whether it can be sustained. Four main categories of measures are used, each with a range of indicators: individual indicators (such as personal health); the economy (e.g. per capita incomes, inflation); the environment (such as pollution levels); and living together (crime rates, for example). *See* Genuine Progress Indicator (GPI); gross domestic product (GDP); Human Development Index (HDI).

Medium-term operational goal of budgetary policy is to gradually return the budget to surplus in the next few years at a prudent rate, when economic circumstances permit this to occur.

Medium-term operational goal of the RBA is to keep annual average inflation at a low rate in the 2–3 per cent range. If inflation is not a threat, the RBA's monetary policy will then try to promote strong and sustainable economic growth and full employment.

Merger is the joining together of two or more companies to form one. Although this may restrict competition, it may also produce economies of large scale.

Merit goods are goods where the broader social benefit exceeds the private benefit of the consumer. These are often associated with positive externalities, whose full benefits have not been fully recognised or taken into account and, hence, are under-produced unless governments intervene in the market, perhaps using subsidies to encourage production and consumption. Here we might think of health and education.

MEW *See* measure of economic welfare.

Microeconomic reforms are another type of government aggregate supply-side policy that often focus on the smaller parts that make up the overall economy, such as a particular industry or a single market. These measures seek to promote greater efficiency often through strengthening competition, keeping production costs down, and by using various motivational incentives for suppliers of goods and services. These policies might include deregulation of the labour and other markets, welfare reform, tax reform and trade liberalisation. *See* aggregate supply policies.

Microeconomics studies the operation of the smaller fragments or units making up the whole economy, such as a particular firm, an industry or a specific market.

Millennium Development Goals were first outlined by the United Nations in 2000 and involve the setting of targets or milestones designed to improve living conditions in low-income countries. One of the key goals involved the halving of severe poverty by 2015.

Minerals resource rent tax (MRRT) commenced in 2012–13 and was abolished in 2014. It involved a nominal tax of 30 per cent on the value of iron ore and coal extracted by large mining companies in excess of \$75 million a year.

Mini-budget is a smaller budget that supplements the main budget, which comes out once a year.

A mini-budget may be required in response to unexpected changes in various indicators.

Minimum price *See* floor price.

Minimum wage is fixed by the Fair Work Commission, which has the capacity to fix (usually once a year) legal minimum award wages and conditions of work governing employment. This provides workers with the means to have a certain minimum living standard. For example, in 2009 there was no rise in the minimum wage but in July 2019 there was a rise to \$740.80 a week. However, with the introduction of decentralised enterprise bargaining, the importance of this centralised wage system has declined to cover only around 15 per cent of workers. *See* Fair Work Australia; Fair Work Commission.

Misallocation of resources occurs when resources are used inefficiently or for purposes that reduce our living standards or level of satisfaction of society's needs and wants. Market failure results in the misallocation of resources.

Modern awards is the name given to a new system of award wages introduced in 2010 as part of labour market reforms. It is designed to simplify and rationalise the old system where there was overlap between the state and Commonwealth wage systems.

Monetarism is an economic theory that emphasises the key role played by the volume of money in influencing output, employment and prices.

Monetary policy is a major category of government aggregate demand management or macroeconomic policy. It is implemented by the Reserve Bank and is designed to influence the cost, availability and demand for credit and money. In a deregulated financial system, monetary policy has mainly focused on influencing interest rates (perhaps through open market operations by the RBA). Monetary policy is applied in a countercyclical way to help regulate AD. It is tightened (i.e. higher cash interest rate target) in an inflationary upswing and loosened (i.e. lower cash interest rate) in a slowdown (e.g. 2016–19) or recession. Through the various transmission mechanisms, RBA changes in official interest rates work to affect the levels of AD and economic activity, and can thus help to simultaneously promote the goals of low inflation, strong and sustainable rates of economic growth and full employment. *See*

aggregate demand management policies; interest rate policy; open market operations; transmission mechanism for monetary policy.

Monetary policy checklist is used by the RBA to arrive at its decision about changing interest rates. The checklist of statistical indicators includes the following categories:

- *inflation rate* — quarterly changes in the headline CPI, underlying CPI, costs of materials used in manufacture and wages costs
- *spending* — trends in consumption and investment spending, AD, retail trade and housing, as well as changes in consumer and business confidence as leading indicators of private spending
- *labour market* — changes in labour market conditions including unemployment, employment growth, job vacancies and labour force participation rates
- *budgetary policy stance* — the type of budgetary policy outcome (such as surplus or deficit) and stance (e.g. expansionary or contractionary) being adopted by the treasurer
- *international situation* — overseas trends in inflation, economic activity and other events like the terms of trade, as well as changes in Australia's exchange rate and CAD.

After weighing up often conflicting evidence, the RBA then adopts a particular policy stance.

Monetary policy stance relates to whether the intention of the RBA is to slow AD and economic activity (a contractionary stance) or whether the aim is to boost AD and economic activity (an expansionary stance). *See* monetary policy; monetary policy checklist; neutral monetary policy stance.

Money is a commodity and includes coins and notes, as well as bank and other deposits in financial institutions held by the public. It fulfils various functions including a commonly regarded measure of value, store of value and standard of deferred payments.

Money capital is the finance needed to undertake business investment involving the purchase of physical capital; for example, plant and equipment.

Money incomes is the income received by people, which is measured in terms of the nominal number of dollars and cents rather than the actual quantity of goods and services that it can

purchase. Purchasing power is better indicated by real incomes that are measured by subtracting the inflation rate for a period from the rise in nominal income for that period.

Monopolistic competition is competition in the market between many buyers and sellers of goods and services that are close but not perfect substitutes because of the existence of brand names and other means of product differentiation.

Monopoly is where a market or industry is dominated by a single producer of goods or services for which there is no close substitute. Such a producer has the potential market power to fix output, prices and profits in a non-competitive way (e.g. power companies, some utilities, possibly BHP steel and CSR). Monopolies occur with both private and government-owned enterprises.

Movement along a demand line is shown on a demand–supply diagram as a move from one point on the demand line or curve to another point. It occurs when consumers of particular goods and services are prepared to buy less of a good or service as the price rises (a contraction in demand), and more as the price falls (an expansion in demand). It should *not* be confused with a shift in the location of the whole demand line caused by changes in the microeconomic non-price conditions of demand (changes in the quantity purchased at each given price level).

Movement along a supply line is shown on a demand–supply diagram as a move from one point on the supply line or curve to another point. It occurs when producers of particular goods and services are prepared to supply a larger quantity of a good or service as prices rise (an expansion in supply), and a smaller quantity as prices fall (a contraction in supply). It should *not* be confused with a move in the location of the whole supply line caused by changes in the microeconomic non-price conditions of supply (changes in the quantity produced at each given price level).

Multicultural society is one based on ethnic diversity.

Multifactor productivity represents a measure of the overall or combined efficiency of labour, capital and other resources.

Multilateral trade agreements are trading arrangements between three or more nations

designed to foster international trade; for example, GATT. *See* bilateral trade agreements.

Multinational companies, also called transnationals, are businesses that produce and distribute goods and services in a number of different countries around the world.

Multiple branding occurs when one company sells two or more similar or identical products (e.g. some washing detergents, toothpaste) under different brand names.

Murray–Darling Basin Plan is a government environmental policy to secure the long-term ecological health of the river system by increasing environmental water flows and reducing usage by using a water trading system designed to put a realistic market price on water that reflects its relative scarcity.

National accounts are annual statistical reports prepared by the ABS and designed to monitor changes in macroeconomic variables such as spending, production and incomes. These were first prepared in the 1945 budget and are useful for economic analysis and policy formulation.

National Competition Council (NCC) is a central organisation set up to provide advice, conduct research, make recommendations and evaluate state government microeconomic reforms aimed at promoting strong competition and improved efficiency.

National competition policy (NCP) is a broad collection of microeconomic reform measures, pursued collectively by federal and state governments or authorities, designed to strengthen competition in markets, even those traditionally dominated by government monopolies. Fostering competition is seen as an important means of improving efficiency in the use of resources and cutting costs. Greater efficiency and lower prices also strengthen the international competitiveness of local firms.

Some of the main elements of the NCP include:

- extending the coverage of the *Competition and Consumer Act* of 2010 (formerly the *Trade Practices Act* of 1974) to embrace smaller unincorporated businesses, and federal, state and territory government businesses
- implementing the idea of *competitive neutrality* so that government businesses do not enjoy unfair tax, cost or other advantages

when competing against private businesses in markets

- *restructuring public sector monopoly-type businesses* so there is increased competition and, if need be, corporatising or privatising government businesses
- reviewing the merits or otherwise of various *state and federal laws* that restrict effective competition
- expanding the level of *prices surveillance* arrangements to include all government businesses
- allowing wider access or entry to the production of nationally significant infrastructure
- where relevant, government policies and legislation taking into account ecologically sustainable development, social welfare and equity, regional development, the interests of consumers generally, the competitiveness of Australian industry and the efficient allocation of resources.

See microeconomic reforms.

National debt is government and private loans still awaiting repayment.

National employment standards include legislated and non-negotiable minimum conditions for employment; for example, a 38-hour week, four weeks annual leave, 12 months parental leave, and public holidays and so on. These arrangements now apply to those on the minimum wage and enterprise agreements.

National income equals GDP minus indirect taxes less subsidies minus depreciation allowances minus net income payable overseas.

National savings is money that accumulates when households, firms and governments do not spend all their current income. The government, for example, can save by adopting a budget surplus rather than a budget deficit.

National wage case is considered each year by the Fair Work Commission when it considers the case for a rise in the minimum wage. Typically, there are wage submissions from the ACTU, the government and employers. This and other information is used to make a decision. In July 2019 there was a 3 per cent rise to \$740.80 per week for fulltime adult workers.

National water initiative (NWI) is an aggregate supply strategy that seeks to develop a national

approach to the allocation of water. It encourages water trading between states and improvements in water pricing in order to manage this scarce resource more effectively.

Nationalisation is government takeover of the control and ownership of firms and industries previously owned privately.

Natural monopoly is where there is only one firm in a market due to various circumstances such as the barriers to entry to competitors caused by the huge investment needed, practicalities, government restrictions in the past or some special cost advantage enjoyed. Natural monopolies are common in service delivery areas where competition is limited, such as water and power supply.

Natural resources See land.

Natural unemployment is made up of structural, frictional, seasonal and hard-core types of unemployment that exists to some extent, even in a healthy economy. It is caused by various changes in aggregate supply-side conditions such as the effect of new technology, industry restructuring, the mismatch of skills to fill the jobs on offer, business relocation, unemployment for those workers between jobs and those unemployed at the same time each year. For Australia, recent research suggests that currently, 4.5–5.0 per cent of the labour force is naturally unemployed. Attempts to reduce unemployment to a rate less than this, would only cause labour shortages and cost inflation. For Australia, the rate of natural unemployment has changed over the years. For instance, it was around 1–2 per cent in the 1950s, rose to 6.0–7.0 per cent in the 1970s and 80s and fell to 4.5–5.0 per cent by 2018–19.

Necessity is an essential good or service such as food, shelter and clothing needed for survival.

Negative environmental externalities represent the costs to the environment created by producers and consumers as a result of economic activity. They include pollution, resource depletion, destruction of natural beauty spots, urban congestion and crime that have simply been externalised or passed on to others and future generations.

Negative externalities are adverse consequences or costs imposed on a third party as a result of an individual or firm undertaking economic activities. These are an example of market failure. External costs might include pollution,

exhaustion of resources, smoking, urban problems, high-rise housing, stress, crime, traffic congestion, lack of open space, lack of personal identity, global warming and climate change. The pursuit of rapid economic growth here and overseas has been a major cause of negative externalities.

Net economic welfare (NEW) is a measure of welfare developed by American economist Paul Samuelson and designed to improve the usefulness of GDP in a similar way to the measure of economic welfare. *See* measure of economic welfare (MEW).

Net errors and omissions is an item that reflects the inaccuracies in the recording of international transactions. This item may be either positive or negative.

Net foreign debt (NFD) occurs when the value of borrowing abroad by Australian residents (government, public and private) exceeds the value of Australian assets abroad. A rising level of debt need not be a problem provided that the country has a growing capacity to service that debt by expanding its income from abroad (via increases in net exports and productive capacity, for example). This was not the case during the latter 1980s in Australia.

Net goods represent one category of international transactions recorded on the balance of payments current account. It represents the annual difference between credits for goods exported minus debits for goods imported.

Net investment is recorded on Australia's balance of payments account as a subsection of the capital and financial accounts. It represents the difference between direct and portfolio investment coming into Australia from overseas, and direct and portfolio investment by Australian residents overseas during a period of time.

Net migration is the rate of immigration minus the rate of emigration.

Net overseas spending is the value of spending on exports of goods and services minus the value of spending on imports of goods and services.

Net primary incomes represent one category of international transactions recorded on the balance of payments current account. It involves the payment of primary incomes by Australia overseas and the receipt of primary incomes from overseas in the form of wages, profits, interest,

dividends and royalties. Net primary incomes is equal to the value of primary income credits (receipts of incomes from overseas) minus the value of primary income debits (payment of incomes to overseas).

Net reserve assets are recorded on our balance of payments account and involve both RBA and government transactions including foreign currencies, monetary gold, and required contributions to overseas governments and international agencies.

Net secondary incomes represent one category of international transactions recorded on the balance of payments current account. It involves the transfer of funds (e.g. non-capital foreign aid) to and from Australia. Net secondary incomes is equal to the value of secondary income credits minus the value of secondary income debits.

Net services represent a category of international transactions recorded on the balance of payments current account. It involves the purchase by Australia and sale to overseas of services such as shipment, education, other transport and travel. Net services is equal to the value of service credits (from the sale of services to overseas) minus the value of service debits (from the purchase of services from overseas).

Net wealth or net worth represents the value of assets owned by individuals, such as a house or shares, after taking any debt into account.

Neutral monetary policy stance occurs when the RBA's cash rate target is around the 'normal' 2.5 per cent range by 2019. Rates below this (e.g., 1.0 per cent in July 2019) are seen as expansionary to stimulate AD, while rates above this are contractionary (e.g., 3.5 per cent in 2011) and aim to slow AD and economic activity.

No-disadvantage test was a standard applied to all wage agreements whereby workers could not have pay and conditions below certain minimum standards applied to relevant wage awards. This was later replaced by the better off test.

Nominal income is simply the number of dollars of income received by an individual measured over a period of time, and does not take into account its purchasing power.

Non-competitive markets are marketplaces or situations where prices are not set in an atmosphere of keen competition between many small buyers and sellers. In such markets, it is

common to find monopolies and oligopolies. *See* monopoly; oligopoly; restrictive trade practices.

Non-economic living standards are value-based elements of human wellbeing that influence that part of our living standards unconnected with material possessions — they affect the quality of our daily lives. Elements may include the level of personal happiness, self-fulfilment, low crime and death rates, absence of pollution and political freedom. Many of these are difficult to measure precisely. *See* general or overall living standards and general welfare; living standards; negative externalities.

Non-market activity is production by households and individuals not actually sold or marketed, such as home duties, gardening, babysitting and cooking. This means that the value of this production contributes nothing officially to GDP. The same is true of the cash and black market economies.

Non-material living standards relate to the ‘quality’ of an individual’s daily life, not directly related to the consumption of material goods and services. They could be affected by factors like happiness, freedom, pollution, crime rates, democracy, job satisfaction and life expectancy. *See* non-economic living standards.

Non-renewable resources are natural resources that cannot be replaced or remade as they become exhausted; for example, minerals and oil.

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

Non-tax revenue is budget receipts that come from sources other than taxes, such as rents from property, profits from government trading enterprises and asset sales.

Non-taxable income is income not subject to tax. For example, income below the tax-free threshold is not taxable. Additionally, some business-related expenses incurred by individuals in gaining income can be subtracted from gross income to arrive at the level of taxable income.

Normative economics involves statements about what should be done, based on personal opinion, likes and dislikes. For instance, to say that the Australian government ‘should increase its spending on defence by cutting outlays on welfare benefits’ is a statement of personal beliefs, so this represents normative economics.

Official cash rate is the interest rate target set by the RBA for the short-term money market and indicates its monetary policy stance.

Oligopoly occurs when several large firms control the output of a product for which there is no close substitute; for example, an oil refinery, soap powder, car and tyre manufacturing and electrical goods.

Open market operations or market operations represent one specific aspect of monetary policy conducted by the Reserve Bank. It involves the sale and repurchase of government securities or bonds by the RBA in the short-term money market as a means of influencing the volume of money, interest rates, aggregate demand and the level of economic activity. For instance, when the RBA repurchases bonds from the banks in the short-term money market, this causes the amount of cash or liquidity to rise, putting downward pressure on interest rates. In turn, lower interest rates stimulate AD and economic activity through various transmission mechanisms. In reverse, the sale of bonds by the RBA creates a cash shortage, pushing up interest rates and slowing AD and economic activity. *See* interest rate policy; monetary policy.

Opportunity cost is the loss of production (production forgone) that occurs when scarce resources are diverted into their next most productive use. Given resource scarcity, this cost is unavoidable in a fully employed economy working at maximum efficiency. For example, increased military production may be measured in terms of the benefits forgone as a result of reduced civilian production. In international trade, the failure of countries to specialise in the production of goods and services where they have a comparative cost advantage also creates an opportunity costs that lowers efficiency and our general level of wellbeing.

Optimum-sized population is a theoretical concept relating to the best population size that will allow a country to maximise material living standards or value of GDP per head.

Organisation for Economic Co-operation and Development (OECD) is an international organisation with 24 member nations, including Australia, that is heavily involved in promoting international trade.

Outlays are the expenses or costs paid by the government in providing public goods and services, and welfare benefits.

Overall balance of payments account (BOP) is an annual statistical record of Australia's financial transactions with the rest of the world. In turn, these transactions are divided into two main types of transactions — current transactions, and transactions involving the capital and financial accounts, each recording credit and debit transactions.

Overdraft is a type of advance or loan made by banks where individuals or companies are granted permission to overdraw their bank accounts in exchange for the payment of an interest rate. This is both a demand-side factor and supply-side factor.

Overnight or short-term money market is an institution in which money is borrowed and lent for short periods of time (e.g. overnight). In conducting its interest rate policy, the RBA operates by selling or buying back secondhand government securities in the short-term money market, thereby altering liquidity, the availability of credit and hence official interest rates. *See* interest rate policy; monetary policy; open market operations.

Overpopulated countries are those where there are too many people given the availability of productive resources. This problem can lead to lower living standards.

Overseas debt *See* foreign or overseas debt; net foreign debt.

Overseas reserves are holdings of foreign currencies by the Reserve Bank. They may be used by the RBA for a dirty float to support the Australian dollar and to help iron out uninformed or erratic falls in the Australian dollar. *See* dirty floating exchange rate; floating exchange rate; foreign exchange reserves.

Overseas sector is that part of an economy involved in the selling of exports and the purchase of imports of goods and services.

Overtime refers to hours of employment or work outside those normally agreed. Overtime normally increases during booms when labour is in short supply and declines during recessions when unemployment is relatively high.

Paid work is when individuals sell their labour for wages or salaries.

Participation rate is a term usually applied to the labour force describing the percentage of a given group of individuals of working age who are prepared to work and seek employment. Changes in welfare and tax scales can affect participation. A rise in the participation rate can act as a favourable aggregate supply factor growing the nation's productive capacity and potential GDP.

Pattern of income distribution relates to the way the nation's income cake is divided between individuals, groups and regions making up society. Income may be divided unevenly; for instance, as a result of differences in age, sex, geographic location, skill, experience, ethnic background, job responsibility and occupation.

Pay-as-you-go (PAYG) tax on personal incomes is a direct progressive tax levied at marginal rates of zero per cent up to 45 per cent, not including the 2 per cent Medicare levy (2019–22). Currently the Australian government is starting to implement a three-stage tax reform package over the next few years to 2024–25 designed to reduce tax rates and restructure tax brackets. *See* personal income tax.

Peak is the upper turning point on the trade cycle prior to contraction. It is often associated with higher production and inflation, and lower unemployment. *See* boom.

Perfect competition is a theoretical situation in the marketplace where many buyers and sellers compete — in the absence of business, union or government monopolies or other restrictions — to set prices for goods and services for which there are many perfect substitutes. *See* market capitalist economy.

Personal income tax is an important direct federal tax on the wages and salaries of individuals (PAYG). It is described as progressive because it taxes higher incomes at higher rates than lower incomes. Marginal tax rates on personal income begin at 0 per cent on taxable incomes up to \$18 200 per year, rising through steps up to 45 per cent on taxable incomes of more than \$180 000 per year, not including the 2 per cent Medicare levy (2018–19).

Persuasion is a minor type of monetary policy strategy that may be used by the RBA to talk up or down the level of borrowing, spending and economic activity.

Planned capitalism means that the economic system mainly involves decision making through

government economic planning, and there is much private ownership of business or the means of production.

Planned socialism means that the economic system mainly involves decision making through government economic planning, and there is much state or government ownership of business or the means of production.

Policy instruments See aggregate demand management policies; aggregate supply policies; budgetary policy; environmental policies; immigration policy; macroeconomic policy; microeconomic reforms; monetary policy.

Policy mix is the combination of particular types of government economic policies (e.g. the mixture of macroeconomic or aggregate demand policies versus aggregate supply policies including microeconomic policies) used to pursue each government economic goal. For instance, controlling inflation is best done using a mixture of monetary and microeconomic policies — the former is used to control demand inflation and the latter policy is used to curb cost inflation by reforms to promote greater efficiency.

Policy settings (the current and expected future economic climate) are taken into consideration when the government contemplates changing its aggregate demand or macroeconomic policy stance (i.e. whether or not these need to be more expansionary or contractionary in their impact on AD and economic activity). For example, the trends in inflation, GDP, unemployment, the CAD, expenditure relative to productive capacity and the level of confidence are all considered.

Policy stance refers to whether aggregate demand management or macroeconomic budgetary and monetary policies are expansionary or contractionary in their impact on the level of aggregate demand and domestic economic activity. For instance, during a recession or slowdown when unemployment is rising (which occurred in 2008–11 and 2013–15), budgetary policy often becomes more expansionary by automatic and discretionary cuts in receipts relative to outlays. Typically, the budget moves into deficit and this tends to stimulate aggregate demand and economic activity. Similarly, when the RBA uses open market operations involving repurchasing government securities to lower interest rates, monetary policy's stance also

becomes more expansionary to stimulate aggregate demand and economic activity (e.g. 2016–19), or contractionary to slow inflation. By contrast, the stance typically becomes more contractionary to slow aggregate demand during an inflationary upswing in economic activity (such as occurred in 2006 and 2010–11, and again 2016–19).

Political constraints are the limits imposed on the use of various government policies by the government's desire to remain popular with voters, the lack of a majority in the upper house and by the limits to constitutional powers to take certain action. For example, rises in tax rates or cuts in welfare outlays are seldom popular with voters.

Population growth equals the rate of natural increase (birth rate minus death rate) plus the rate of net migration (immigration rate minus emigration rate). See immigration policy.

Population policies relate to attempts by governments to alter the growth rate, size, age distribution and geographic distribution of a nation's population (e.g. through immigration targets).

Population pyramids are diagrams used to show the distribution of a country's population between different age groups and between males and females. These diagrams are usually shaped like a pyramid, with the sides sloping upward to a point because there are generally fewer people in each successively older age group. However, over the years, economic events such as recession, social events (acceptance of contraceptives and changing roles of women) and political events (e.g. war) in Australia and overseas have caused irregularities in the shape of Australia's population pyramid.

Portfolio investment is investment involving the purchase of shares generally listed on the stock exchange. It is often regarded as speculative and unstable in nature. This is a major item contributing to non-official (private) capital movements recorded as one item on the balance of payments capital account.

Positive economics analyses issues where the investigation is largely free of personal values, feelings or opinions. It is based on hard evidence about what *is* actually the case. In other words, positive economic analysis often involves basic

statements such as ‘if A occurs, then B is the result’.

Positive externalities are the benefits that flow to third parties not directly involved in the production or consumption of a particular merit good or service.

Potential GDP describes how many goods and services a nation could theoretically produce if all resources were used most efficiently. It is the same as a nation’s productive capacity and may be illustrated using the production possibility frontier on a production possibility diagram. It would also be that point on a nation’s aggregate supply line where there will be no further rise in production following rises in the general price level.

Poverty is a term that may be taken in *three* senses:

1. absolute poverty — an insufficiency of income to purchase necessities
2. comparative poverty — an individual may be relatively poor given the general community standards of affluence
3. personal poverty — this may be caused when an individual suffers a sudden drop in living standards caused by, for example, unemployment or sickness.

In the Commission of Inquiry into Poverty (1973) by Ronald Henderson and others, it was found that 10 per cent of Australians lived below a poverty line (an austere level of income) and another 8 per cent were rather poor, having incomes less than 20 per cent above the poverty line. The main groups affected were the aged, females, large families, single-parent families, migrants and the unemployed. Some critics of the Henderson measure say that it exaggerates the extent of poverty. Among those most affected are the young, Indigenous Australians and the long-term unemployed. *See* poverty line.

Poverty line is a level of income below which recipients cannot enjoy reasonable food, shelter and clothing. There are several poverty lines to allow for different sized income units. These lines are regularly updated because inflation erodes the purchasing power of incomes. *See* poverty.

Predatory pricing is selling a product or service at such a low price that competitors are effectively driven out of the market.

Price is the purchase cost or amount paid in exchange for the supply of goods and services. Price often reflects the conditions of demand and supply at equilibrium in a market.

Price collusion is where companies join together to set prices that are usually higher than otherwise and establish selling arrangements that restrict competition.

Price elasticity of demand (PED) relates to *responsiveness* of the quantity demanded to the percentage change in price. For instance, given a rise in price, elasticity relates to whether the demand contracts by a lot or just a little in percentage terms. This can be affected by the availability of substitute products, the product’s importance and the time period involved. Price elasticity of demand can be calculated as follows:

$$\text{PED} = \frac{\text{Percentage change in the quantity demanded}}{\text{Percentage change in its price}}$$

PED is greater than 1 when demand is elastic and less than 1 when it is inelastic.

Price elasticity of supply (PES) relates to the *extent* to which the quantity supplied responds (i.e. whether the quantity supplied expands or contracts by a large or small percentage) to the percentage change in price. Again, elasticity is reflected in the steepness of the supply line and may be affected by the time period, product storability, resource mobility and the level of unused productive capacity. Price elasticity of supply can be calculated as follows:

$$\text{PES} = \frac{\text{Percentage change in the quantity supplied}}{\text{Percentage change in its price}}$$

PES is more than 1 when supply is elastic and less than 1 when supply is inelastic.

Price fixing refers to illegal collusion between supposedly rival firms, often involving strategies that increase prices above normal levels.

Price index is a statistical device used to show changes in the average cost or price of a basket of items. *See* consumer price index (CPI); export price index; implicit price deflator indices (IPDI); terms of trade index.

Price leadership is where a dominant or leading firm takes a lead in setting prices that others follow.

Price makers are sellers of goods and services (e.g. some unions, government enterprises and large businesses) that have the market power to set prices because of the absence of strong competition among suppliers. They are common where monopolies and oligopolies exist and where there are excessive levels of tariff protection.

Price mechanism *See* market mechanism.

Price signals help to make key economic decisions in a market economy by creating incentives for the owners of resources. When the conditions of demand or supply change in a market, they cause a change in relative prices and relative profits, guiding owners to allocate resources to where they are most wanted by consumers. Their level and direction indicate whether there has been over- or underproduction of a good or service in a market economy. Rising relative prices signal shortages or underproduction in a market, while lower prices signal gluts or overproduction. *See* market mechanism.

Price system *See* market mechanism.

Price takers are sellers of goods and services who have no power to influence the prices they receive. The situation exists in markets when competition between sellers of goods and services is strong.

Primary income *See* net primary incomes.

Private consumption *See* consumption spending.

Private enterprise occurs when the means of production (such as land, farms, mines, services, factories and banks) are owned privately. Usually, owners seek to maximise profits. *See* free enterprise; market capitalist economy.

Private expenditure is spending by private individuals and companies designed to help satisfy both immediate and future needs and wants. Both C and I are private components of the aggregate demand equation.

Private income is personal or market income from the sale of resources including wages, interest, rent, dividends and profits, before paying income tax.

Private sector *See* private expenditure.

Privatisation is the reduction of government ownership of business enterprises and their sale

(through the issue of shares) to private individuals or the public (e.g. Telstra, Commonwealth Bank, Qantas). Justification for privatisation includes that it would lift efficiency by improving access to money capital and stronger management, cut costs by the increased desire to maximise profits, and lower prices and improve service quality by increasing the potential for competitors.

Procylical policy may occur when the government tries to use aggregate demand budgetary and monetary policies to help iron out countercyclical changes in various economic policies, but these actions can sometimes worsen instability. If there are long time lags in recognition, implementation and/or impact, these policies can become mistimed and slow spending, for instance, when there is actually a need to increase spending. If this occurs, they become *procyclical*, worsening economic instability. *See* countercyclical budgetary policies.

Product differentiation is the use of brand names and advertising to establish differences between substitutable products.

Production is the creation of goods and services.

Production costs include business expenses such as wages, salaries, rent, interest on loans, prices of local and imported raw materials, and government taxes and charges. They are included in the price of goods and services sold. Production costs affect profits and thus can be seen as an aggregate supply factor.

Production possibility diagrams are used to illustrate some of the production choices available to society in the ways resources may be used.

Production possibility frontier (PPF) depicts the maximum level of output possible for a country when all resources are used to maximum efficiency. When a nation is located on this curve or frontier, it is impossible to raise the output of one product without reducing the output of another, unless of course productive efficiency and/or the quantity of resources are expanded. The PPF represents a nation's productive capacity or potential level of output. On the aggregate supply line, this occurs at the 'elbow' where the line becomes vertical. Over time, the size of the frontier may grow or shrink due to changes in the quantity of resources available or the efficiency with which resources are used. Aggregate supply factors or conditions affect the size of the

frontier. *See* aggregate supply (AS); aggregate supply policies; aggregate supply-side factors; productive capacity.

Productive capacity is the economy's physical limit or potential to produce goods and services (potential level of GDP) when all resources are used to maximum efficiency. This is shown at the point where there is an upward bend in the aggregate supply line. It can also be shown on a production possibility diagram as the production possibility frontier or PPF. Productive capacity may be increased (shifting the AS line or the PPF outwards) by access to additional resources. It may also be enhanced by increased efficiency, high levels of investment in new technology, increased participation rates, higher worker motivation and even lower production costs. *See* aggregate supply (AS); aggregate supply policies; aggregate supply-side factors; bottlenecks to production; production possibility frontier (PPF).

Productive or technical efficiency is about firms producing goods and services using the least-cost method and by minimising the resources used. For this to occur, businesses need to employ best practice involving plant, equipment, technology and organisational expertise currently available. *See* efficiency.

Productivity is a measure of efficiency or the output gained per unit of input of resources. In the case of labour, productivity is a measure of efficiency calculated by dividing the real value of final output over a period of time by the total number of workers. Multifactor productivity reflects the efficiency of all inputs of resources. Australia's failure to substantially lift productivity/efficiency has contributed to industry's lack of competitiveness in domestic and foreign markets. Microeconomic reforms and industry plans have attempted to help solve this problem. *See* efficiency; microeconomic reforms; multifactor productivity.

Profit margin is the difference between the final price and the total prices or costs of all inputs used. Generally, producers attempt to maximise profits by their actions and allocate resources accordingly.

Profit maximisation is an assumption applicable to the operation of a market capitalist economy where individuals and firms attempt to achieve the highest rate of income. However, firms may

also have other goals such as enlarging their market share.

Profitability is roughly indicated by the total value of a business's sales minus the total value of its costs. Maximising profits is a key goal for most firms.

Progressive taxes are designed to redistribute income more evenly. The marginal tax rate increases as personal income levels increase (e.g. with personal income tax and capital gains tax). This is the opposite type of tax to a regressive tax. *See* personal income tax; regressive tax.

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

Proportional or flat tax is a tax where the tax rate remains constant irrespective of income level; for example, 30 per cent tax on the company profits of large firms in 2015–19 (a lower rate for small to medium-sized firms).

Protection is a term used in international trade where imported goods and services are excluded or their volume reduced using various devices such as tariffs or import quotas. Protection is the opposite of free trade. Over the period 1972 to 2020, the federal government reduced the level of protection as part of its microeconomic policy designed to lift efficiency in the allocation of resources. Many arguments are used to justify protection of local industry including the creation of jobs, support of infant industries, and defence arguments. *See* free trade.

Protectionism *See* protection.

Public debt interest is interest payments on government borrowings.

Public enterprise is government ownership of the means of production.

Public goods and services are goods and/or services available for all people to use, gain benefit from or enjoy (e.g. the law, defence, parks and beaches). Sometimes these are even provided privately, perhaps by not-for-profit charitable organisations, but usually the government makes these goods and services available using part of its tax revenue. They are usually non-excludable and non-rivalrous.

Public ownership is widespread in socialist nations and involves government ownership of the means of production.

Public-private partnerships (PPPs) are infrastructure ventures, such as tunnels and major roads, undertaken by federal and state governments with the private sector. Private money builds, maintains and operates the facility, but the government leases it for periods up to 30 years.

Public sector is that part of the economy involving the government production of goods and services.

Public sector borrowing requirement (PSBR) is the finance required by all levels of government when total budget outlays exceed total receipts (i.e. there are budget deficits). *See* government borrowing.

Public trading enterprise is a government business that tries to sell its goods and services at a profit.

Purchasing power is the actual or real quantity of goods and services that may be bought with a given amount of money or income. Changes in real wages (money wages adjusted for inflation) may be a useful indicator of changes in purchasing power.

Purchasing power parity (PPP) is used to make adjustments to the purchasing power of money in different countries so as to allow international comparisons of incomes. The adjusted number is usually expressed in international dollars.

Pure competition *See* perfect competition.

Pure market capitalist economy *See* market capitalist economy; perfect competition.

Pure monopoly is an industry structure where one producer controls 100 per cent of the industry's output for which there are no close substitutes. Competition is non-existent and the producer is a price maker.

Purely competitive markets *See* perfect competition.

Quality of life usually relates to society's level of *non-material* living standards as influenced by a number of subjective or value-based variables; for example, happiness, the crime rate, hours of leisure and work, the environment and freedom. *See* non-economic living standards.

Quarterly changes in data occurs where statistics are released every three months, or four times a year, as with GDP.

Quintiles represent the five equal-sized groups making up all income earners in Australia. Each quintile therefore represents 20 per cent or one-fifth of all income earners. Comparing

income or wealth shares of the income cake by quintiles exposes the degree of inequality.

Quota is the quantity limit or target for production or the import of particular types goods (import quotas).

R&D grants made by governments to institutions (e.g. the CSIRO), universities, industry and individuals, seek to cultivate society's knowledge and improve technology. This approach involves cash payments, and seeks to grow the quality of our resources (especially capital goods and human capital) and increase technical and dynamic efficiency. Additionally, there are tax concessions provided for R&D to make it more attractive by offsetting part of the cost. In the long term, these outlays make supply conditions more favourable and expand our economy's productive capacity or potential GDP. R&D grants can create incentives. These should enable the development of new products and inventions that can be sold to consumers here and around the world and/or bring social benefits (positive externalities) that make society better off and raise the quality of life.

Rapid economic growth *See* goal of strong and sustainable economic growth.

Rate of interest is the cost of borrowing money or the return for lending money. Broadly, this is determined by market forces although the Reserve Bank may influence its level via its open market operations and other measures. *See* interest rate policy.

Rational behaviour is assumed to occur in competitive markets — the belief that both buyers and sellers behave rationally and act in their own self-interest. For example, it is often assumed that firms maximise profits, and consumers want to purchase goods at the lowest price. *See* asymmetric information, bounded rationalism.

Real GDP *See* gross domestic product at constant prices.

Real incomes is what incomes will actually purchase in terms of the quantities of goods and services, after allowing for the effects of inflation. *See* purchasing power.

Real interest rates represent the actual cost of borrowing calculated by subtracting the inflation rate from the nominal interest rate. Inflation is taken into account because, from a borrower's

point of view, it reduces the purchasing power of the moneys being repaid. *See* interest rate.

Real unit labour costs (RULCs) are the average wages paid per worker relative to the average value of output produced per worker measured over a period of time.

Recession is a relatively mild downturn in economic activity (such as occurred in 1990–92) caused by a slowing of aggregate demand leading to reduced sales, above-average levels of cyclical unemployment and a slow rate of economic growth. An economy is said to enter a recession when the real value of production falls in at least two successive quarters (i.e. in six months).

Redistribution of income occurs when government measures such as progressive taxes (direct tax), social welfare benefits (direct benefits) and other needs-based outlays such as education, health and welfare housing for the needy (indirect benefits) create a more equitable income distribution where everyone has access to basic goods and services.

Regimen is the basket of, for example, goods and services or currencies used in the construction of index numbers such as the consumer price index, export price index and trade weighted index. *See* consumer price index (CPI); index numbers.

Regressive tax is a tax that tends to exaggerate income inequalities because low incomes are taxed at higher rates than high incomes. Indirect taxes (such as the excise on tobacco, alcohol and petrol or the GST on a broad range of goods) are generally regarded as regressive.

Regulated markets are markets where the government restricts the free operation of the market or price mechanism, limiting its influence over resource and income allocations. Regulated markets were found in the former communist states of the Soviet Union and Yugoslavia, and exist today in China, Indonesia and even in Australia.

Relative poverty exists when people are very poor and on low incomes compared with what are normally regarded as reasonable living standards in their society.

Relative prices describe the price level of one particular type of good or service compared with the price level of another. When relative prices change (perhaps due to changes in the conditions of demand and supply), this affects relative

profits and hence influences how scarce resources are allocated among competing wants. For instance, a rise in the price of one good relative to another often means that the good becomes relatively more profitable to produce, thereby attracting extra resources into this area of production.

Relative profits describe the profits made in one area of production versus another. They are affected by changes in relative prices.

Relative scarcity is where people's needs and wants are virtually unlimited and exceed the limited resources available to satisfy those wants. *See* scarcity.

Renewable resources are resources that can be replaced or renewed, such as some forests and livestock.

Rent is income derived from the use of land or property.

Re-regulation of markets is where the government reintroduces regulations or restrictions governing the operation of particular markets, perhaps designed to provide more certainty, security and stability. For instance, consideration has been given to the possibility of greater or tighter regulation of the financial sector following the global financial crisis in 2008. Similarly, the Labor government in 2008–09 moved to re-regulate aspects of the labour market to help protect workers.

Reserve Bank of Australia (RBA) has several functions, including:

1. banker to the government and other banks
2. implementer of monetary policy to ensure the stability of our currency and the pursuit of government economic objectives
3. lender of last resort to the banks.

Its key medium-term operational objective is to keep inflation within the 2–3 per cent target over the economic cycle. *See* floating exchange rate; interest rate policy; monetary policy.

Resource allocation involves how scarce resources are to be used and the purposes or ends to which they are put. For example, will they be used for public or private purposes, for the production of specific consumer or capital goods, or for local or export production? *See* efficient allocation of resources; market failure.

Resources are inputs (also called factors of production) used in the production of goods and services. There are *three* main types:

1. land and natural resources
2. labour and entrepreneurial skills
3. capital and technology.

See individual listings.

Restrictive trade practices are illegal activities of business designed to limit competition, raise prices and expand the income of those undertaking them. Activities include:

1. retail price maintenance
2. collusive bidding and tendering
3. price leadership
4. interlocking directorships
5. predatory pricing.

These are illegal under the *Competition and Consumer Act* of 2010 (formerly the *Trade Practices Act*) which is enforced by the ACCC. See collusion; interlocking directorships; price leadership; retail price maintenance.

Retail price maintenance is an illegal trade practice where a producer sets a minimum price for the sale of an article by a retailer.

Revenue is government income from various sources such as taxes.

Revenue from federal government enterprise transactions is a category of budgetary revenue collected from the sale of goods and services to the community.

Rural commodity markets are institutions where buyers and sellers of farm produce (such as grains) negotiate prices.

Safety net wages are the minimum award wages set by the Fair Work Commission (\$740.80 for 2019–20). They are now set taking into account unemployment and economic conditions. See Fair Work Australia (FWA); Fair Work Commission (FWC).

Salary is an agreed amount of money paid to employees for their labour during the year.

Sales tax is an indirect form of tax (like the GST) on selected goods and services levied by the government at the point of sale. Indirect taxes are often regarded as hidden and are regressive, especially if levied on necessities. They can be made less regressive in their effects on income distribution if they are levied on luxuries purchased largely by higher income groups, such as French wines and luxury cars.

Salination refers to increasing salt levels in soil that can eventually lead to the degradation of soils and vegetation.

Savings are that portion of income not spent.

Frequently, savings are deposited in financial institutions and become available for financing investment and consumption spending.

Savings–investment gap occurs when national savings by households, businesses and governments are not enough to finance national investment by households, businesses and governments. There is a savings–investment gap that can only be filled by borrowing savings from overseas. This increases domestic interest rates, net foreign debt and the current account deficit.

Savings reforms and plans have been initiated by the government to boost national savings. Australian households, businesses and governments do not save enough to finance our high level of investment spending. This results in a national savings–investment gap leading to heavy reliance on overseas borrowing, foreign debt and a big CAD. To try to correct this problem, the government has initiated savings reforms (a savings strategy). These measures include the application of fiscal balance (surplus budgets pay for deficits over the economic cycle), the creation of the Future Fund (and other special savings funds), tax concessions for superannuation contributions (and for the withdrawal of benefits after age 60 years), cuts in tax rates to help facilitate more savings and the superannuation co-contributions scheme.

Scarcity is the basic economic problem or question that arises because our unlimited wants far outstrip the limited resources available for production to satisfy these wants. As a result, we need to make choices about which wants are satisfied. This decision results in opportunity costs.

Seasonal unemployment occurs when climatic and other factors cause some workers, such as shearers, fruit pickers, holiday resort employees and ski instructors, to be unemployed at the same time each year.

Secondary incomes See net secondary incomes.

Sector is a section of the economy; for example, consumers, producers, government, overseas.

Securities See government securities; open market operations.

Services are non-material objects produced by people for the benefit of others. Often services are of a non-lasting form and expire as soon as they have been performed. However, in some cases, the consumer of services may derive lasting satisfaction from them.

Shift of the whole demand line or curve occurs when the onset of new non-price, microeconomic demand-side factors, cause buyers to be prepared to purchase a larger quantity of a good or service at any given price (called an increase in demand), or purchase a smaller quantity of a good or service at any given price (called a decrease in demand). This concept is not to be confused with an upward movement (demand contracts as the price rises) or downward movement (demand expands as the price falls) along the demand line, and is caused solely by a change in the price of a particular good or service.

Shift of the whole supply line or curve occurs when the onset of new non-price, microeconomic supply-side factors cause sellers to be prepared to produce a larger quantity of a good or service at any given price (called an increase in supply), or a smaller quantity of a good or service at any given price (called a decrease in supply). This is not to be confused with an upward movement (supply expands as the price rises) or downward movement (supply contracts as the price falls) along the supply line, and is caused solely by a change in the price of a good or service.

Shortage arises in a competitive market when, at a given price, the quantity of a good or service demanded exceeds the quantity supplied. Normally, this would cause the market equilibrium price to rise until demand equals supply.

Short term is a fairly short period of time, possibly up to a year. Examining statistics covering such a period cannot be regarded as a sound basis for drawing reliable conclusions or trends.

Short-term money market enables the Reserve Bank to affect interest rates through the conduct of open market operations. When the RBA sells government securities in the short-term money market, this increases the official cash rate, while RBA repurchases of securities lowers the cash rate.

Skilled migration program is part of the federal government's immigration policy. Skilled

migrants are often recruited to help make up for shortages among the trades and professions, and make up 65 per cent of the total migrant intake. *See* immigration policy.

Skills shortages exist from time to time when the supply of some occupations (e.g. engineers, electricians, machinists, doctors) is not enough to fill the number of job vacancies that are on offer in these areas.

Slump is a downturn. *See* depression; Great Depression; recession.

Social infrastructure includes the government's provision of adequate and affordable health care education and housing. *See* infrastructure.

Social security and welfare *See* social services or security.

Social services or security are transfer payments by the government to supplement the income of mainly needy individuals. They include unemployment benefits, the aged pension, invalid and sickness benefits, single-parent benefits and family allowances, and are designed to promote greater income equality. They help to promote equity by allowing low-income earners to purchase basic goods and services and enjoy reasonable living standards. *See* assets test; direct benefits; means test.

Socially desirable goods and services are sometimes known as public or merit goods since they are seen as beneficial for society. They are costly or expensive to produce, and cannot be sold profitably at a low price where all can afford them, so the government is often forced to provide them.

Socially undesirable goods and services are an example of market failure. Sometimes these goods or services are overproduced due to their profitability, but their production or consumption nonetheless damages the general wellbeing of society.

Soft loans are offered at a special discounted or favourable interest rate.

Special savings–investment funds such as the Future Fund and Building Australia Fund have been created by the government by investing budget money into giant investment portfolios that over time should grow in value.

Specialisation of labour occurs when workers perform only a narrow range of tasks or concentrate on a particular occupation, trade or

skill, using the income gained to satisfy their other needs and wants.

Speed limit for a growing economy refers to the rate of rise in an economy's productive capacity. This dictates how fast aggregate demand can expand. It is the maximum rate of economic growth that is possible without causing rapid inflation or a blow-out in the size of current account deficit.

Stabilisation policy *See* aggregate demand management policies; contractionary monetary policy stance; countercyclical budgetary policies; economic stabilisation; expansionary monetary policy; Keynes, John Maynard.

Stability of the currency as a government economic goal *See* low inflation as a government economic goal.

Stages of economic growth is a concept developed some decades ago by economist Walt Whitman Rostow, who believed that the economic development of a nation went through various phases including subsistence, preconditions, industrialisation, take-off and drive to maturity.

Stagflation occurred in Australia in the 1970s and early 1980s. It is the simultaneous occurrence of:

1. high inflation caused by rising costs of production (cost inflation)
2. high unemployment caused by industry being non-competitive and an insufficient growth in aggregate demand to utilise resources fully
3. stagnant or falling production levels.

Some economists believe that the solution to the problem is to stimulate spending while introducing supply-side measures to lift efficiency and to contain wages and other production costs. The latter should help shift the aggregate supply line outwards, thereby slowing domestic inflation. *See* supply-side economic theory.

Stance *See* policy stance.

Standard of living is a concept used to indicate the general level of wellbeing. This is influenced by both material living standards (e.g. the 'quantity' of goods and services consumed per head reflected in the levels of real per capita GDP, income or consumption) and by non-material living standards (e.g. the 'quality' of daily life, reflected perhaps in the levels of leisure time, job satisfaction, happiness, family cohesion and crime rates). It is the same as the level of general

or overall welfare or wellbeing. *See* economic welfare or wellbeing; general or overall living standards and general welfare; living standards; quality of life

Stern report was commissioned by the British government and headed by former chief economist at the World Bank, Sir Nicholas Stern. The report investigates global warming and its impact on the world economy.

Stock market is an institution where buyers and sellers of company stocks (shares) negotiate prices.

Stocks are unsold goods that have been produced but not yet sold. Shares in companies are also referred to as stocks.

Strong labour market conditions exist when the demand for labour is high, relative to its supply. Here, unemployment is low and there are many job vacancies. This occurs in a boom.

Structural budget outcome is the budget's financial position when the impacts of cyclical or automatic factors affecting receipts and outlays have been removed. It reflects the government's deliberate decisions. For example, during 2013–18 some claimed that there was a structural budget deficit caused by the failure to completely remove the discretionary stimulus measures (by sufficiently raising receipts and cutting outlays) introduced during the GFC.

Structural causes of income inequality include our reliance on the operation of the labour market to determine wages in different occupations, the system of inheritance of wealth, inequality in the abilities and talents of individuals, racial and gender-based discrimination, geographic factors and the tax system.

Structural causes of inefficiency in resource allocation occur when there is market failure and competition is weak. In addition, structural inefficiency may arise when the balance between resources allocated for immediate consumption, as opposed to future investment, is lopsided, or when there is poor technical or dynamic efficiency. *See* efficiency; productivity.

Structural causes of inflation occur when there are inefficiencies in the way goods and services are produced or markets are structured. Firms are forced to lift their prices to cover costs and protect their profit margins. *See* cost inflation.

Structural change involves firms and institutions altering the way they organise, produce or distribute goods and services. Structural change may involve many aspects including closing down or selling off non-performing subsidiaries or branches, de-merging aspects of the business into separate entities, downsizing staff levels, introducing a flatter management structure where there is emphasis on self-managed teams of workers and introducing the world's best practice. Often such changes are the result of government aggregate supply policies that expose firms to greater competition, such as lower tariffs and market deregulation. The main aim of structural change is to allow the business to control its production costs, raise profitability, become more efficient and improve international competitiveness. *See* microeconomic reforms.

Structural current account deficit (CAD) occurs when supply-side problems result in a preference for imports and overseas borrowing relative to exports and domestic borrowing, and net income debits rise. One reason for Australia's generally high CAD is that locally made goods, services and credit are relatively dearer and less attractive than the overseas counterparts. Another cause is the lack of domestic savings to fill the national savings–investment gap that is met by increases in the net foreign debt (overseas borrowing).

Structural determinants of the rate of economic growth such as structural or aggregate supply-side factors (e.g. the size of firms, efficiency of workers, application of new technology, management quality, level of market competition and availability of resources, and aggregate supply policies including microeconomic reforms) affect the way goods and services are produced or supplied. If there is structural inefficiency, the sustainable rate of economic growth or speed limit will be reduced.

Structural efficiency is an aim of microeconomic reform whereby firms, workers, industries and sectors making up the economy become more productive and resources are allocated more efficiently. The government's promotion of competition has forced firms to restructure their operations more efficiently. *See* national competition policy (NCP).

Structural problems are obstacles that exist in an economy that can cause supply-side inefficiency, cost inflation, structural unemployment, low

sustainable rates of economic growth, a structural CAD and income inequality. They can relate to the way production is organised by the suppliers of goods and services, such as firms, unions and governments.

Structural reform is government microeconomic or industry policies designed to improve efficiency in resource allocation and to lift Australia's international competitiveness. Reducing tariff protection, deregulation of various industries and privatisation are all instruments of structural reform. *See* aggregate supply policies; microeconomic reforms.

Structural unemployment is unemployment caused by the changing composition and structure of industry, possibly associated with the introduction of new technology and processes (such as the computer), cost cutting by firms (e.g. business rationalisation, relocation), change in the geographic location of a firm/industry, government microeconomic reform (such as tariff cuts and the carbon tax), a mismatch of skills held by the unemployed that prevent them from taking up job vacancies, and by changing fashions and products. Currently, this contributes significantly to the 5 per cent or so natural level of unemployment in Australia.

Subsidies are generally cash payments or tax concessions given by the government to businesses, industries or individuals. They are part of industry protectionist policies. When given to producers (rather than consumers), they can help to reduce production costs, encourage firms to restructure their operations more efficiently to become internationally competitive, expand their productive capacity, and grow aggregate supply in the long term. They can also help to promote society's general interests by reducing market failure, perhaps associated with externalities and the provision of public goods.

Substitute is one product that can easily replace another; for example, margarine for butter.

Superannuation is a pension or lump sum of money payable to some workers upon retirement. This money is accumulated through contributions made by employees, and by employers on behalf of their staff. The contributions are invested and hopefully grow over time to provide extra retirement income. The government uses tax concessions on superannuation as part of budgetary policy to encourage household savings,

add to national savings and help close Australia's savings–investment gap that adds to the structural CAD and NFD. *See* superannuation co-contributions scheme; superannuation guarantee charge.

Superannuation co-contributions scheme was introduced in 2002 and modified several times. Lower income individuals making a \$1000 after-tax contribution to their superannuation fund were matched by the government by up to \$500 per year.

Superannuation guarantee levy (SGC) is a compulsory levy imposed by the federal government. From 1 January 1993, large companies with payrolls over \$1 million per year were required to pay a 5 per cent contribution into a superannuation fund for employees when they retire. Smaller companies were then to pay a 3 per cent levy. In 2001–02, the percentage rose to 9 per cent, up from the 1998 level of 7 per cent. Subsequently, the SGC has been increased progressively from 9.0 per cent from June 2013, to 9.25 per cent from June 2014, to 9.5 per cent from June 2014, to 10 per cent by 2021–22 and eventually rising to 12 per cent from July 2025.

Supply is a market force that relates to the quantity of a particular good or service that producers are willing to sell at a given price over a period of time. This is directly related to price. *See* law of supply; supply curve or line.

Supply curve or line, when plotted on a graph, shows that the supply of most individual products varies directly with price. For instance, a fall in price causes the quantity supplied to contract, while a rise in price causes supply to expand. This gives the line a positive slope up and to the right. Movements 'along' the supply line are caused by changes in price. *See* supply.

Supply management policies *See* aggregate supply policies.

Supply of labour is the number of individuals able and willing to work.

Supply-side aspects of budgetary policy are aspects in the annual budget such as spending on infrastructure projects, lower tax rates and welfare reforms that help to lift efficiency and build productive capacity.

Supply-side economic theory attributes changes in economic activity and the general inflation rate to changes in the overall willingness and/or ability of the nation's suppliers of goods and services to

produce. Aggregate supply conditions facing producers can become generally more favourable or less favourable for sellers. However, theory suggests that government aggregate supply policies should seek to make these conditions more favourable, leading to an expansion of the economy's productive capacity or AS.

- *Favourable aggregate supply factors* expand the willingness or ability of producers to supply. They may include increased business profits, lower costs of production such as wages, oil or power, increased availability of resources and productive capacity, and government policies (e.g. stronger productivity, increased public works, reductions in company tax rates and reduced interest rates on business loans). They may combine to lift economic activity (production and employment) while depressing cost inflation.
- *Less favourable aggregate supply factors* restrict the willingness or ability of producers to supply. They might include lower productivity, higher wage costs, increased cost of borrowing credit, higher costs of electricity for firms, drought and climate change. They can cause business closures and discourage business expansion by raising costs and reducing profits. These adverse conditions may not only reduce activity but may also worsen cost inflation (causing stagflation).

Supply-siders thus advocate government measures to help promote more favourable conditions for suppliers, such as tax cuts and efficiency reforms.

Supply-side factors or conditions at the macroeconomic level are the influences that affect the general viability and decisions of firms or producers supplying goods and services in the economy. For instance, when aggregate supply-side conditions are more favourable — for example, when there is better productivity, lower costs, good weather conditions for farmers, reduced company tax rates, lower real unit labour costs and lower interest rates on credit — business owners become more willing or more able to raise their production levels, thereby accelerating economic growth. These same promising conditions can also mean lower production costs for firms, reducing cost pressures that squeeze profit margins and cause

inflation. *See* aggregate supply-side factors; aggregate supply policies.

Surplus budget *See* budget surplus.

Surplus on the balance of payments current account occurs when the total value of credits exceeds debits for goods, services, primary incomes and secondary incomes in a nation's international transactions for the year.

Sustainable Development Goals of the United Nations are the 17 targets for development set for the period 2015–30. These include the eradication of poverty.

Sustainable development or economic growth is where economic growth meets the needs of the present population without jeopardising the ability of future generations to meet their needs. Clearly this concept must take account of negative externalities. *See* environmental policies; goal of strong and sustainable economic growth.

Sustainable rate of economic growth as a government goal *See* goal of strong and sustainable economic growth.

Swing is a short-term change in the direction of a variable, possibly caused by seasonal factors (e.g. seasonal unemployment). *See* trend.

System for making economic decisions describes how choices are made about what types of goods and services are to be produced, how these should be produced, and for whom these should be produced. It is about whether decisions are made by private individuals (consumer sovereignty, as in a market system), or by the government (as in a planned system).

System of ownership describes who owns the means of production and the businesses (such as farms, mines, shops, banks), and whether there are private owners (in a capitalist system) or whether the government owns most businesses (in a socialist system).

Takeover occurs when a business buys more than 50 per cent of the shares in another business, allowing the buying business to become larger and develop more power in the marketplace to fix prices. The company that is bought out is called a subsidiary.

Tariff is an indirect tax added onto the price of imports to make them dearer to local consumers and protect local industries from overseas competition. As part of its trade liberalisation policy, the Australian government started to cut tariffs in the early 1970s and continued during the

1990s until all tariffs were reduced to 5 per cent or less from 2015 onwards.

Tariff protection is the protection of local industries through the imposition of a tax on imported goods, which is likely to make those imported goods more expensive. *See* protection; tariff.

Tax is a levy imposed by governments on businesses and individuals designed to raise revenue.

Tax base describes whether the coverage of the tax is relatively broad or narrow. For instance, the GST exempts some necessities to make it less regressive, but this narrows the tax base. A broader tax base could allow for more adequate funding of community services and welfare. *See* tax reform.

Tax burden relates to the proportion of an individual's total income that is collected as government revenue. The rich bear a heavier tax burden of progressive taxes than the poor.

Tax mix is the type or combination of taxes used by the federal government to raise its revenue. Currently the tax mix involves a greater reliance on direct rather than indirect taxes.

Tax reform can be regarded as a microeconomic policy and often involves changing the way budget revenue is collected. As an aggregate supply policy, tax reform usually focuses on:

- reducing the tax burden through lower tax rates paid by individuals and companies as a proportion of their income or the price of a good
- reviewing the tax base, coverage or inclusiveness of what types of things are to be taxed or not taxed (e.g. which goods or services, which income, what assets)
- improving the tax mix or combination of different types of tax used to raise revenue (e.g. direct versus indirect, consumption versus income taxes)
- redirecting how the tax revenue that is raised is to be used or spent.

Through these types of changes, governments seek to increase the incentives for businesses to invest and produce, encourage individuals to work harder by rewarding effort, and strengthen Australia's international competitiveness.

Overall, tax reforms can help to grow the economy's efficiency, productive capacity and the level of aggregate supply, and through these effects advance Australia's domestic

macroeconomic goals and living standards. More specifically, tax reforms have involved the following:

- The 10 per cent GST was introduced to replace the wholesale sales tax (WST) in July 2000.
- The capital gains tax rate was halved in 1999 and in 2017–18 is 22.5 per cent.
- All tariffs were cut to a maximum rate of 5 per cent by 2015.
- Company tax rates were cut from 36 to 30 per cent in 2000–02, in July 2015 to 28.5 per cent for small businesses, and then to 27.5 per cent for small and medium-sized businesses with a turnover of less than \$50 million in 2018–19. Further cuts to 25 per cent have been passed for the upcoming years for small to medium-sized firms with an annual turnover of less than \$50 million by 2021–22.
- Excise tax was modified and in some cases reduced in 2000–02, with additional changes made to the excise on tobacco and petrol in 2014–17. For example, the tobacco excise has been rising by 12.5 per cent over the last and next few years.
- PAYG tax thresholds and rates were revised in 2003–10 and again in 2012, when the tax-free threshold increased from \$6000 to \$18 200. Currently, the Australian government is implementing its three-stage personal income tax reform policy that will be completed in 2024–25. Stage 1 started from July 2018, increased the upper cut off for the 32 per cent tax bracket. Stage 2 will start from July 2022. It will increase the upper cut off for the 32.5 per cent tax bracket. Stage 3 will increase the upper cut off for the 19 per cent tax bracket to \$45 000. It also abolishes the 32.5 and 37 per cent tax brackets, replacing these with a 30 per cent bracket that runs up to a cut off of \$200 000.
- The Minerals Resource Rent Tax (MRRT) was introduced from July 2012 at a nominal rate of 30 per cent on profits made from the extraction of iron ore and coal mining companies exploiting our non-renewable mineral resources. It was abolished in 2014.
- The carbon tax was introduced in 2012 and abolished in 2014.
- For three years from 1 July 2014, a temporary budget repair levy of 2 per cent was introduced

for those on personal incomes above \$180 000, taking the top marginal tax rate to 47 per cent (for 2015–17, not including the then 2% Medicare levy).

Tax revenue is money collected by the government; for example, from wage and salary earners, companies making profits and from the sale of goods and services. This money is then available to the government to provide services for the community.

Tax-free threshold is the cut-off level of taxable income that applies before individuals have to pay income tax. The current PAYG tax-free threshold for the period to 2012–20 is \$18 200.

Taxable income is income on which tax must be paid (gross income less allowable deductions).

Taxation is a government levy or revenue measure that can be used as part of the budget to affect the level of prices, the growth rate and the distribution of income. Important considerations for taxes are their simplicity, efficiency and equity. Tax reform may involve changes to tax rates, the tax mix, the tax base and the tax burden.

Technical and other assistance in overseas aid involves the donor country or a United Nations agency providing scientific, economic, educational, technical, industrial or agricultural personnel.

Technical efficiency *See* efficiency; productive or technical efficiency.

Terms of trade compares the prices received for our exports against those paid for imports. *See* export price index; terms of trade index.

Terms of trade index is a measure that reflects changes in the weighted average prices received for a basket of exports against average prices paid for a basket of imports. It is the ratio of export to import prices and is measured as follows:

$$\text{Terms of trade index} = \frac{\text{Terms of trade index}}{\text{Import price index}} \times \frac{100}{1}$$

This index shows changes in the actual quantity of imports that may be purchased with a given quantity of exports. A decline in the terms of trade is seen as unfavourable for Australia. This is because it may cause a decline in the exchange rate, a less favourable balance of goods, a slower rise in AD, higher unemployment, declining material living standards and a slower rate of

economic growth. Australia suffered a substantial fall in the terms of trade between 2013 and 2016 due to weaker global economic growth.

By contrast, between 2010 and 2012 and again in 2016–17–18–19, Australia enjoyed stronger terms of trade (moved favourably) due to strong Chinese and global economic growth. This raised the prices received for and value of our exports, contributing to stronger AD, and economic growth and employment. *See* export price index.

Third World refers to a group of nations that have very low subsistence levels of production and income, and hence high levels of poverty.

Tied loans involve special conditions that are imposed on borrowing countries, such as requiring that the money be used to purchase exports from the donor country.

Time lag is the period of time that elapses between observing an adverse trend in an economic variable (such as rising inflation) and this variable responding to a corrective policy introduced by the government. There are *three* types of time lag:

1. the recognition lag — the time period that elapses before statistical indices pick up an adverse trend. For instance, some measures are published only on a yearly basis.
2. the implementation lag — the time period that elapses before government policy makers select and implement a corrective policy to deal with the adverse trend. This may be quite long, especially in the case of new discretionary measures in the annual budget.
3. the impact lag — the time period that elapses before a corrective policy takes effect.

Although automatic stabilisers respond and work quickly, discretionary budgetary policy (such as infrastructure projects) may be made less effective than monetary policy because of the greater lag in implementation. Monetary policy changes may take up to three years to reach full effect. Monetarists often oppose the use of discretionary government stabilisation policy since time lags can cause countercyclical measures to be procyclical. *See* procyclical policy.

Total equality is a situation in which income is divided evenly between income recipients. On a Lorenz diagram, this would be represented by the diagonal line of absolute equality where each decile receives exactly the same share of the total income cake.

Trade agreements are contracts and sales negotiated by the government with overseas countries and individuals to promote exports abroad. These agreements may be bilateral (such as the agreement with New Zealand, China, and Japan) or multilateral (such as GATT).

Trade balance *See* balance of (merchandise) trade.

Trade barriers are government restrictions such as tariffs, import quotas and subsidies on the movement of goods and services across national borders.

Trade deficit occurs when the total value of a country's imports exceeds the total value of its exports over a period of time.

Trade liberalisation involves the progressive reduction of tariffs, subsidies and import quotas, and a shift towards the idea of free trade where there is an increase in the number of bilateral free trade agreements. Increasingly, national borders no longer restrict the movement of goods, services and money capital between countries. The Australian government has gradually adopted this policy since 1972, but especially in the period 1990 to 2020. With freer trade, nations are forced to allocate resources into areas of production where they have a comparative cost advantage (or in areas of least disadvantage). *See* free trade agreements (FTAs); globalisation; import quotas; subsidies.

Trade-off occurs when governments are forced to choose, for example, between the achievement of one goal and another. For instance, attempts to boost economic growth sometimes lead to increased inflation. Another example is between the pursuit of an equitable distribution of personal income and the level of efficiency and economic growth. Additionally, there is often a trade-off between increased material living standards and the maintenance of non-material living standards.

Trade Practices Act (TPA) *See* restrictive trade practices.

Trade protection is a government policy that involves using high tariffs, import quotas and subsidies to local producers to support local industry so that it can compete with imports. Protection encourages countries to produce goods and services for which they do not have a comparative cost advantage. *See* protection.

Trade surplus occurs when the total value of a country's exports exceeds the total value of its imports over a period of time.

Trade wars can occur when one nation decides to increase tariffs applied to the imports of goods from another nation, causing the other nation to raise its tariffs in retaliation. This can then provoke ongoing rounds of tariff rises. An example of a trade war was that between the United States and China during 2018–19.

Trade weighted index (TWI) is an index or measure reflecting the average movement of the value of the Australian dollar against a basket of currencies of our trading partners, each weighted according to its relative importance. In the base year, the index equals 100 points. However, if our dollar appreciates the index will rise above 100 points, while if it depreciates it will fall below 100 points. On 3 May 2019, Australia's TWI stood at 60.1 index points (where 1970 = 100 points).

Trading competitors usually mean those foreign nations against whom Australian producers must sell in domestic and foreign markets.

Transfer income *See* transfer payments.

Transfer payments include cash income supplements or welfare benefits paid to the neediest individuals (e.g. the unemployed, single parents, the sick, students and the aged), designed to top up their disposable income and promote a more equitable income distribution. In addition, they can also include grants to the states and interest on the public debt paid by the federal government. Transfer payments are a major component of budget outlays, but are not seen as actual expenditures on goods and services conducted by the government that make up the G_1 and G_2 components of aggregate demand — the actual spending is done by the transfer recipients. *See* social services or security.

Transmission mechanism for monetary policy describes the various ways whereby changes in interest rates can be used to regulate the level of AD and economic activity. For example, lower interest rates (e.g. 2011–19) help strengthen demand and economic activity in *five* main ways:

1. *The cost of credit effect.* Lower interest rates mean cheaper credit and easier repayments for loans. This stimulates credit-sensitive spending (AD) and discourages saving. This causes a fall in stocks, so firms increase production, boosting economic activity.
2. *The availability of credit effect.* Lower interest rates increase the availability of credit and so more borrowers meet bank lending criteria
3. *The wealth effect.* Lower interest rates increase the price or value of assets like property. As a result of feeling wealthier, people tend to spend more.
4. *The exchange rate effect.* Higher interest rates tend to slow inflation by discouraging spending on imports, thereby pushing up the exchange rate. This makes the cost or price of imports purchased locally cheaper.
5. *The inflationary expectations effect.* Higher interest rates can reduce inflationary expectations. They signal to savers, borrowers and investors that the RBA means business and will check inflation. It affects people's perceptions before they take necessary action to protect their real incomes from the effects of rising prices and before there is speculation in assets.

Trans-Pacific Partnership Agreement (TPP) is a free trade agreement signed by Australia and six other nations including Japan, Mexico, Canada, New Zealand, Singapore and Vietnam that came into force from 30 December 2018. It eliminates 98 per cent of tariffs on our agricultural exports.

Treasury bills are a form of short-term government security sold to the Reserve Bank by the government and designed to provide finance for a deficit budget. This is often referred to as the 'printing of money'.

Treasury notes are a form of short-term government security (13- or 26-week maturities) sold by tender.

Trend is the underlying direction of an economic variable established over a period of time (perhaps five or more years). This is distinct from a short-term or seasonal swing which may or may not become established as a trend with the passage of time. *See* long term or long run; swing.

Trickle-down theory believes that the benefits of economic growth and development will not just benefit the rich but, given time, will eventually improve the daily existence of the poor.

Trough is the lowest point on the trade cycle, where unemployment is usually high and production is down. *See* business cycle; depression; economic activity; recession.

Ultimate economic objective of the government is the goal of improved material and non-material living standards for everyone. It can be pursued by achieving other subsidiary goals like low inflation, strong and sustainable economic growth, full employment and an equitable distribution of personal income. *See* economic welfare or wellbeing.

Underemployment exists where it would be possible to reduce the labour force without a reduction in production levels. This is because workers are not working to their capacity and are employed inefficiently. Disguised unemployment is common, especially in economically poorer countries.

Underlying balance represents the headline balance after subtracting the value of one-off volatile items such as asset sales, special loans to state governments or debt repayments by other governments.

Underlying inflation rate prepared by the Treasury is measured by removing the 20 000 or so volatile items (such as some fresh food items, including fruit and vegetables) from the 100 000 plus items making up the regimen for measuring the ordinary headline CPI. Sometimes the underlying measure is preferred for some purposes by the government when shaping its anti-inflationary policies, since it is believed to provide a better guide to changes in fundamental inflationary pressures that may exist in the economy because of the exclusion of those items affected by one-off events. The government's target for underlying inflation is to keep annual average price rises around 2–3 per cent over time. *See* headline inflation.

Underutilisation rate *See* labour force underutilisation rate.

Unearned income is income gained from the ownership of land (rent) and capital (interest). This is not gained directly from personal effort.

Unemployable persons are those members of the labour force who cannot be employed or who cannot retain a job because of personal or physical characteristics.

Unemployment occurs when those who are willing and able to work cannot secure a job. A major cause of high levels of unemployment during a recession (which almost occurred in 2008–09 during the global financial crisis) or depression is

a lack of spending on aggregate demand. When there is no cyclical unemployment (as in February 2008 when the rate was only 3.9 per cent), the major cause of unemployment is structural change (structural unemployment). *See* cyclical unemployment; frictional unemployment; natural unemployment; seasonal unemployment; structural unemployment; underemployment; unemployable persons.

Unemployment benefit is money paid to unemployed persons by the government. In recent times, benefits to the unemployed are paid only to those who meet preconditions relating to seeking employment and undertaking training. *See* dole; social services or security.

Unemployment rate is the number of workers in a nation classified as unemployed and then expressed as a percentage of the total labour force. For example, Australia's unemployment rate for 1992–93 was 11 per cent, while in February 2008 it was 3.9 per cent and 5.0 per cent in April 2019. Annual rates represent the average of the rate for four months — August, November, February and May.

Unfair dismissal laws are laws that protect workers from unfair dismissal or treatment by their employers. When dismissal from a job occurs, the employer needs to follow certain procedures. Failure to comply fully with legal requirements allows staff to seek compensation or other sanctions to be applied to a particular business. Some commentators felt that this protection discouraged firms from taking on staff since it could be costly to get rid of them if they proved to be unsatisfactory. This contributed to structural unemployment. With this problem in mind, the laws were changed in both 1996 and again in 2006. Small firms employing fewer than 100 staff became largely exempt from the law. However, with further changes introduced by the *Workplace Relations Amendment Act* in 2008 and the *Fair Work Act* in 2009, these laws were again partly reinstated for medium to large firms where staff have been employed for more than six months, or for smaller firms employing fewer than 15 staff that have been employed for more than 12 months. *See* *Work Choices Act*; *Fair Work Act*; *Fair Work Amendment Act*.

Unfavourable terms of trade *See* terms of trade index.

Unit elasticity of demand refers to how demand for a product changes when the price changes. Demand is of unit elasticity if the quantity demanded changes by the *same proportion* as the change in price; for example, a 10 per cent fall in price results in a 10 per cent rise in quantity demanded. Here, the total revenue remains unchanged with a fall in price.

Unlimited liability occurs when sole traders and partners are fully responsible for repaying all debts of the firm.

Unpaid work is work performed free of charge.

User-pays principle is the principle that if you use the good or service, you must pay for it. Traditionally, many government services (such as health, education, transport, telecommunications and water) were provided to the public, especially the poor and those living in remote and rural areas, free of direct charge or at a low, subsidised price. Increasingly, however, this is changing. The user of services is increasingly expected to pay as government departments become more commercialised and corporatised following funding cuts.

Utility refers to the total satisfaction received from consuming or demanding a good or service. Utility often decreases the more of a good we consume. Utility also decreases as the price paid for the good increases. This means that the demand for a good will normally contract as the price increases, and expand as the price decreases.

Vacancies are unfilled job positions or offers of employment by business firms. These are normally advertised in the employment sections of daily newspapers and indicate the demand for labour. A fall in job vacancies is usually seen as a sign of a weaker labour market.

Value is determined by both the per-unit price and the number or quantity of units involved. That is:

$$\text{Value} = \text{Unit price} \times \text{Quantity.}$$

Values are beliefs or attitudes about what individuals, society or governments consider to be good or bad, right or wrong, important or unimportant. They help to shape our economic system.

Vertical integration is when firms are joined together to become a bigger business in different but often related industries.

Voluntary unemployment occurs when people of working age deliberately decide not to seek employment.

Wage is the monetary reward of labour, paid in exchange for work.

Wage or profit shares of GDP is an indicator of the distribution of total national income going to workers (the wage share) as a proportion of the income going to owners of businesses.

Wage-price spiral is successive rounds of increases in prices leading to increased wage demands, or increased wage demands leading to increased prices.

Wants are desires for goods and services that are not usually considered essential or necessary (e.g. a new bike or a holiday house). These are generated by trends in fashions, advertising, planned obsolescence, population growth and habit.

Weak competition causes market failure. It exists in markets where there are no or few sellers of a good or service, and where the market power of a particular firm is great (e.g. where there are monopolies and perhaps oligopolies).

Weak labour market conditions exist when there is a low demand for labour relative to its supply. Here, unemployment is relatively high and there are few job vacancies. This occurs in recessions.

Wealth is the stock of assets (such as property, capital and antiques) owned by an individual. Substantial income can be earned by owners of wealth. In Australia, wealth is unevenly distributed and is often inherited from one generation to the next.

Weighting of items in the consumer price index (CPI) reflects the relative importance assigned to each particular good or service included in the basket or regimen, reflecting the spending patterns of typical households.

Welfare benefits are regarded as cash transfer payments from the government (usually via Centrelink) to various categories of people who are often classed as needy (e.g. the aged, the sick, widows, families, veterans, the unemployed and single parents). Frequently a means or incomes test, or an assets test, is applied in an effort to help level out income inequalities and cut the cost to taxpayers. These help recipients to buy basic goods and services and enjoy better living standards. *See* aged pension.

Welfare or wellbeing *See* living standards; economic welfare or wellbeing.

Welfare trap occurs when income gained from government welfare benefits is too generous or attractive relative to that earned from having full- or part-time work. As a result, some people become trapped on welfare. Alternatively, people are trapped if the tax system is such that personal tax begins at very low income levels when they start earning extra income, thereby discouraging work.

What and how much to produce? is one of three key questions facing all economies involving a choice between alternative types and quantities of output. Should a nation, for example, allocate resources to produce guns or butter, consumer goods or capital goods, in small or large quantities?

Work Choices Act (the *Workplace Relations Amendment Act*) was passed in 2005 (effective from March 2006). Essentially, this Act involved:

- handing over the Australian Industrial Relations Commission's (AIRC) minimum wage-setting role to the newly set up Australian Fair Pay Commission (AFPC)
- establishing a national wage-setting system under federal control that overrode the state wages systems for many workers
- limiting the role of the AIRC to industrial relations dispute resolution, and the simplification and rationalisation of wage awards
- creating the Australian Fair Pay and Conditions Standard (the minimum, statutory, standard working conditions; for example, the 38-hour week, four weeks annual leave, parental leave, sick leave, personal carers leave)
- making firms employing fewer than 100 staff exempt from unfair dismissal laws.

See Fair Work Act; Fair Work Amendment Act; Forward with Fairness Policy.

Workforce *See* labour **force**.

Workplace Relations Act (1996) and Workplace Relations Amendment (Work Choices) Act (2005) *See* *Work Choices Act*.

Workplace Relations Amendment (Transition to Forward with Fairness) Act (2008) sought to remove some of the harsh aspects of the former *Work Choices Act*. New AWAs were made illegal, transitional arrangements were put in place, unfair dismissal laws were reinstated and apply in most instances, the no-disadvantage test (abolished under *Work Choices*) applies to all enterprise agreements, and a one-stop industrial relations shop called Fair Work Australia was established in mid-2010 (now called the Fair Work Commission).

World Bank is an international financial institution set up to provide technical and financial help in the form of financial loans and grants to member nations.

World Trade Organization (WTO) is an international institution originally set up in 1995 to promote *free trade* as a means of accelerating global economic growth and development.

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